

# Commodore NETWORK

AUSTRALIA

February 1995

Vol 4 No 2

Supporting the Commodore range of 8 bit computers

*Inside.....*

**The first  
chapter in our  
1541 disk  
drive  
diagnostics  
series**

**The full index  
of February's  
Disk-Coverer  
disks**

**Regulars.....**

- Surfing the Nets •
- Bits and Pieces •
- CP/M Corner •
- On the Scene •
- Micro-Mart •
- Geosgenie •
- Page 128 •

## NEWSWATCH

### GAZETTE'S LAST GASP

It's official! The Gazette disk will cease publication, as from the February edition.

The publishers were originally planning on a January closure, but Tom Netsell, the editor, managed to talk them into giving him a chance to say "goodbye" to his readers. Gazette has very much been a "one-man show" for some time, with Tom being the only "staffer", or full-time employee.

Publishers reasons for closure include insufficient subscriber base (believed to number around 2000) and publication costs (an average of around U.S. \$5,000 per month - mainly for articles and software for inclusion on the disk).

Present subscribers will, apparently, be offered one of three choices by the publisher. They are:

- a) A refund on the remainder of their subscription
- b) Filling the remainder of their subscription with another publication from the same stable.
- c) Gaining a credit for purchase of Compute Gazette products.

It is rumoured that CMD and a few other Commodore firms were offered Gazette, but were not interested. We are far more likely to see Gazette sold off piece-meal, with items like its subscriber base and Commodore-specific items perhaps being picked up.

### FAX FOR GEOS

The really big news amongst GEOS users is that a fax program has been developed for the Graphics Environment Operating System by Maurice Randall of America.

The software will be able to send/receive fax documents to/from most fax machines or other fax-equipped computers provided the host computer (your Commodore) is suitably equipped with the correct hardware. This includes a Swiftlink and a suitable high-speed modem supporting fax transfers.

The program supports multiple-page transfers and will support Group III, Class II faxes initially, though Class I faxes are being worked on and may well be available by the time you read this.

### COMMODORE NETWORK BBS - ADELAIDE

As of now, Fishbowl BBS in Adelaide is Commodore Network's link BBS in South Australia. Paul Gardner-Stephen, the Sysop (and creator of 64-Net) intends to expand C64/128/CP/M file coverage markedly in coming months, so give him your support (and don't be afraid to upload!). Fishbowl's number is (08) 277-1361.

### CMD AND SKANTRONNIK

The German manufacturer of Handyscanner 64, and the Video Genlock system for the Commodore 64, Skantronnik, is said to have reached an agreement with Creative Micro Designs re distributorship of their products. No information on pricing or whether Novo, CMD's distributor here in Australia, will be carrying these items is available as yet. This is excellent news since the apparent demise of Rio Computers meant that there was no ready source of these lines available within the English-speaking world.

# Editorial

As many of you would no-doubt have noticed, there was no sign of our promised annual survey in last months issue. Things had to be postponed a month due to a number of events fouling up the works. Hopefully, it will be ready and sitting somewhere inside this issue, but if not, well, as we all know, the only time I open my mouth is to change feet, so you should be used to this sort of thing by now!

Now, before I wander on to more mundane things, as always when giving kudos, there is someone forgotten. Unfortunately, our premier issue for 1995 was no exception, and I forgot to mention a fellow who, every year, prepares and lays out our annual Commodore Network index file. That fellow is, of course, Arthur Whiting. Many thanks for your work, Arthur! The C.N. index for 1994 can be found on the "magazine" side of the disk you receive with this issue.

## MORE THANKS

Another to be inadvertently missed is Don Brooke. Don does a lot of "behind-the-scenes" work for C.N., and his help, ideas, and advice have been most appreciated during his time with us.

But, yes, there's still more (I was in particularly good form last month, wasn't I!). Another member of the "silent few" in Kaye Hackett. Kaye has been a steadfast worker in the setting-up and running of C.N.P.D., along with her mother, Mrs. White, and their assistance to Bev, especially in time of illness, has been most appreciated.

## WHO SAID THE 8-BIT WAS DEAD!

I was exhilarated to read the news of GeoFax and its imminent release when it came to hand. this once again puts the good-old 64 up there with the big boys! It never ceases to amaze me just how our programmers keep on pushing out the threshold of 64 software. To me, these blokes (guys for our American compatriots) are the modern day pioneers, the people who go where others of more mundane talent say that it is impossible. Maybe Maurice Randall, the creator of GeoFax, is an American, but we also have a

couple of these pioneering spirits right here in Australia in Rod Gasson, creator of **QWKRR**, an off-line mail-reader, and Paul Gardner-Stephen, creator of **64-Net**, which allows users of C-64's to access a PC and utilise its peripherals (Hard drive, CD-ROM, etc.) as if they were its own. We have already carried a review in the pages of C.N. of Rod's QWKRR, and we hope to have full reviews of 64-Net and Geo-Fax published shortly.

## CMD NEWS

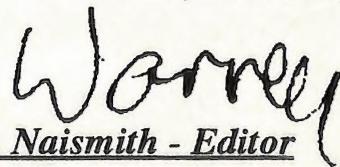
I for one was thrilled to see that CMD are now distributing the Handy-Scanner. When Rio Computers disappeared, it looked as though the English-speaking world was about to loose access to what must be one of the most dreamt-about peripherals in 64dom. With CMD now about to pick this item (and others) up, all that remains to be seen is the costs involved, and whether local distributor, Novo, will be carrying it.

## REGULAR WRITERS

Commodore Network is looking for a couple of extra writers. The pre-requisites are that you must have the time, knowledge, and dedication to supply a monthly column on the following subjects: BASIC programming, ML programming, and technical/hardware projects/discussions. We are also looking for foreign correspondents from around the globe who are willing to put together between 500 and a thousand words a month on happenings in the Commodore world from their local point of view. This latter requires no more than a willingness to write and a pride in your nation and its Commodore community.

If you feel you'd like to help, please drop me a line. C.N. will take writers from all parts of the world, but please realise that it is entirely voluntary, and there are no payments involved.

Also, please note that we do require more "stand-alone" articles for publication on any Commodore related subject, so don't be shy, we'd love to put your work (and your name!) in print.



Warren Naismith - Editor

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## C64 Public Domain GEOS

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Animals, Birds & Insects 2xD/S \$10, File Library - 14 D/S disks of  
Geos utilities \$50, Font Bank - 10 D/S disks of Geos fonts \$40.  
Sampler disks with complete listings available for FILE LIBRARY  
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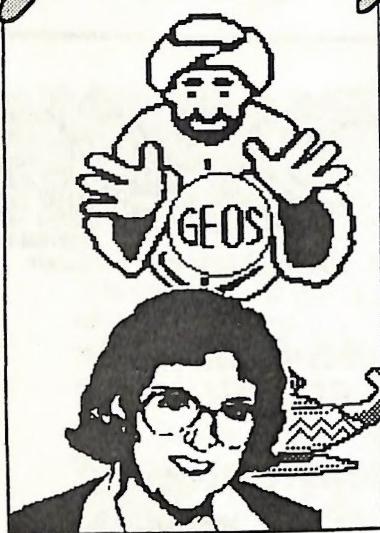
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# **GEO-Sgenie**



This month, I am going to show you how to go about modifying an icon that a program produces as a data file. The simplest description of what I mean, is the standard geoPaint data icon that the Paint Pages driver produces. To do this, we are going beyond the confines of GEOS that we are used to. Are you ready ???.

Since I am a serious tinkerer, it is no surprise that I often venture into the more mysterious areas of GEOS. The programs that have suffered the indignity of my modifications are : 1 - Paint Pages driver, 2 - Handy Import, 3 - Text Grabber128. I use these programs, a lot.

I frequently use the Paint Pages driver to create geoPaint pages of graphics assembled in geoPublish, Handy Import gets used when I am converting Handy Scan graphics to geoPaint, and especially since I write GEOS HandBooks, Text Grabber converts my Busy Bee {The Write Stuff} text files to geoWrite format.

By now you are probably thinking, why don't I just use an Icon Editor to change the icon afterward ?. Well, I used to, when it was only one or two file's icons that needed changing. But, when that number increased to more than forty files at a time, it simply was too slow, and I did have to have my own icon design on each one.

## **What Do We Need ?**

First of all, a spare {blank} GEOS formatted disk. Secondly, a good Sector Editor program - preferably a GEOS one, {I use MAVERICK S.E. {c} from Kracker Jax KJPB The Maverick v5' distributed by Software Support International USA}. Thirdly, GEOS64 or 128 v2.0 System Disk, where you will find the Paint Drivers

Jane Voskamp-Jones

## **Where To Begin**

Okay, have a look at the graphic showing how the icons originally looked, and the intended end result. We need to get from the first to the second, all in hexadecimal numbers!. The best place to do this is a Sprite Grid to calculate the decimal values that give the icon it's shape. Then we must convert the decimal values to hexadecimal. Suffice it to say, that for now, I have already done this for you {collective sigh}, and the following numbers represent the geoPaint data icon on the top left in both decimal and the corresponding hexadecimal values {three values each successively}. If you don't believe that I am right, work it out for yourself, it's okay with me.

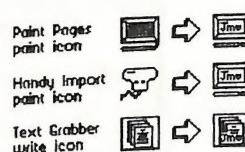
<b>Decimal</b>	<b>Hexadecimal</b>		
255	255	255	FF FF FF
192	0	3	C0 00 03
160	0	5	A0 00 05
159	255	249	9F FF F9
149	85	89	95 55 59
154	170	169	9A AA A9
149	85	89	95 55 59
154	170	169	9A AA A9
149	85	89	95 55 59
154	170	169	9A AA A9
149	85	89	95 55 59
154	170	169	9A AA A9
159	255	249	9F FF F9
160	0	5	A0 00 05
192	0	3	C0 00 03
255	255	255	FF FF FF
0	0	0	00 00 00
0	0	3	00 00 03
127	255	182	7F FF B6
128	0	254	80 00 FE
127	255	188	7F FF BC

Application program {that creates the Paint Pages driver}. Text Grabber is found on the Write Utilities disk. Handy Import is a PD GEOS Application.

Lets start with the Paint Pages driver since it is the simplest to deal with, and most of you who have GEOS v2.0, already have it at hand. To begin, place your Paint Pages driver [that you have previously created] onto the blank GEOS disk. And now, just when you thought I would say double-click on your sector editor, it is back to class we go. Hands up all who know how to design an icon/sprite the hard way, by hand. Uh oh, I didn't see a great deal of hands go up then.

You can't modify something this way unless you know what we are looking for. It's an icon right, icons are easy to recognise aren't they ? But everything we look at with the sector editor will be in hexadecimal. How are you going to recognise an icon in hexadecimal numbers ?.

For more information on the values calculated, the section 'Icons Design and Modify' in 'The World of GEOS HandBook III' [\*\*] gives you the method of calculation used. For a more in depth look at sprites, refer to them.



section 'Sprites Design & Use' in The HandBook of the Commodore 64'. To learn how to convert from decimal to hexadecimal, refer to the section 'Base Conversion Tutorial' in either 'The HandBook of the Commodore 64' or 'The HandBook of the Commodore 128'.

## And A Tinkering We Go

**WARNING !! You could cause irreparable damage to your disk !. If you do use your sector editor program to write to disk, make sure you are working on a spare copy !.**

Now, double-click on your sector editor program, and we are into a new world. With your Paint Pages driver on your new disk, it is certain to be the first file on the directory. The sector editor defaults to displaying the Block Allocation Map (BAM) of the disk, on track 18 (\$12) sector 0 (\$00). (All values to follow will be in hexadecimal - hex). To get to the next sector, you can either enter 12 hex for the track, and 01 for the sector respectively, or place your cursor on byte 00, and then click on the sector link gadget.

If you're still with me, when you have track 12 hex and sector 01 displayed, you should be able to read the name Paint Pages in the ASCII display on the right of the screen. First we need to determine if we are dealing with a GEOS VLIR file, or with a GEOS SEQ {gSEQ} file. Byte 17 hex, holds the GEOS File Structure Type and indicates to GEOS how the data is organised on disk. It will be 01 for a VLIR file, or 00 for a gSEQ file. For more information on GEOS disks, refer to the section 'Examining GEOS Sectors' in The HandBook of Commodore Disks'. I get this reference source out every single time I tinker with a GEOS disk.

The byte holds 00, so it is a gSEQ file. We also need to know what type of file we are dealing with. Byte 18 hex, holds the FileType and has 09 indicating a Printer Driver. To jump to the file's sectors on the disk, place the cursor on byte 03 and click on the sector link gadget. The first sector of the Paint Pages file is now displayed on screen. Note that we are looking for the following sequence of hex values FF FF FF C0 00 03 ...

If they are not there {they shouldn't be yet}, place your cursor on to byte 00 and click on the sector link gadget. The next sector is displayed. Continue until you reach the fourth sector. What you see in front of you should look like the diagram shown here. The whole sequence of hex values for the icon is not shown, but if you look carefully you should be able to see FF FF FF as the last three values on the sector. They are

boxed in the diagram. Note down the track and sector hex values so you can return to it shortly.

Just to check that we have the correct sector, the next or fifth sector should begin with C0 00 03, after the sector link bytes {the first two}. This sector is shown in the next diagram. The final bytes for the icon should be ... 7F FF BC. They have been boxed in the diagram to make finding them easier. Now that we are in the right place in the program, return to the fourth sector.

## To Change or Not To Change

Are you still with me ? Right, now you are free to enter the values for the new icon table. What, you haven't got any ? You can either design your own icon and work out the values for it, or begin entering the following values from the keyboard, starting over the top of the FF FF FF .... in the fourth sector. Don't forget to click on the write to disk icon, before following the sector link bytes to the fifth sector.

Decimal	Hexadecimal
0 0 0	00 00 00
31 255 248	1F FF F8
32 0 4	20 00 04
79 128 2	4F 80 02
64 0 2	40 00 02
64 0 2	40 00 02
64 0 2	40 00 02
32 0 4	20 00 04
28 0 56	1C 00 38
2 102 64	02 66 40
1 102 128	01 66 80
1 0 128	01 00 80
1 0 128	01 00 80
1 0 128	01 00 80
1 0 128	01 00 80
12 255 0	0C FF 00
30 24 0	1E 18 01
179 48 0	B3 30 00
225 224 0	E1 E0 00
128 192 0	80 C0 00
0 0 0	00 00 00

**WARNING !! Don't write to disk if you are at all unsure. You could cause irreparable damage to your disk !. If you do write to disk, make sure you are working on a spare copy !. Even experts can make fatal errors, well sometimes.**

If you are feeling confident after all that, write the sector back to disk, and follow the link bytes to the fifth sector. Skip bytes 00 and 01, they are the sector link bytes to the next sector, and enter your values over the bytes from 02 to 3D. Those bytes should have contained the values C0 00 03 A0 00 05 ... with the last ... 7F FF BC. When you are finished, write the fifth sector

back to disk, and you are ready to test out your fancy new icon. Quit the sector editor program back to deskTop. Now you should immediately rename your Paint Pages file to reflect your modification.

## Test Drive

Place your modified and renamed Paint Pages driver on a geoWrite work disk. From the deskTop geos menu, click on select printer to install your new driver. Then, double-click on a geoWrite data file, one that contains something, and from the file menu, select print and click the OK gadget to print the page to disk as a geoPaint data file. When that is completed, exit geoWrite to deskTop. You should now see on your deskTop notePad page, a file called 'page 1' having either an icon that you designed, or the one constructed from the numbers above. Quite a buzz isn't it ? . Did you end up with the Handy Import icon ?, well you did enter the numbers above ;-)

Modifying the icon data that a program will output, is not as straight forward as changing the icon produced by Paint Pages. If you want to try and modify Text Grabber, follow the same procedure {use your own icon though}, except that you will find it is a VLIR file. A VLIR file means that you will have to look through each track and sector given in the VLIR Index Table. Continue searching until you find the sequence of bytes that you have worked out for the geoWrite data icon. This data is pre-programmed to be in the new data file's File Header block, to be used by GEOS deskTop, when the geoWrite file is written to disk by the program. Once you have found the icon data, change it as you desire, and then try it out and see if your modification worked. For more information on GEOS VLIR files and File Header blocks, refer to the section 'Examining GEOS Sectors' in The HandBook of Commodore Disks'.

With Handy Import, to change the icon data to be used, and the info box 'notes' data used, is somewhat more complicated. Fortunately, Handy Import is an application file, so you will only need to search through the whole program, sector by sector, until you recognise the sequence of bytes that you have worked out for the Handy geoPaint data icon. This data is pre-programmed to be in the new data file's File Header block, to be used by GEOS deskTop, when the geoPaint file is written to disk by the program. The author has programmed this data to be used as the icon, and the 'notes' data to be placed in the notes area of the info box. Once you have located the icon and notes data, you may change it as you wish, and then try it out and see if

your modification worked.

What this does, of course, is add insult to injury to what a programmer has created, so remember, it is for your own personal use, and because you have made a change to it, doesn't allow to you overstep existing copyrights. Do bear this in mind even whilst tinkering around!. Generally, on a GEOS disk, the info box data, if present, can be located in the GEOS File Header block, pointed to by the file bytes \$15 and \$16 on the directory sector. The File Header block's 'notes' area in the info box contents, are held in bytes \$A0 to \$FF. You may change it as you wish from a sector editor, but this is the hard way, as deskTop provides an easy way to change this from the file menus info option once a file is selected.

It is a lot of fun going beyond GEOS, and I hope that you have enjoyed this exploration of the unknown. Not everyone is this adventurous, and I probably went over a lot of your heads, but don't worry. It isn't as hard as it all sounds, really, and I won't go this DEEP all the time if you don't want it.

### **Readers Three Wishes And All That ...**

From Fender Tucker of Softdisk Publishing (Loadstars), USA, "I just today [1 Dec 94] received the November issue of CN ... and spied your smiling face on the Geos Page. So you're the GEOSGenie? I see that you are much more knowledgeable about Geos stuff than I [who isn't?] but you also seem to be a little ahead of the man who is doing most of the Geos stuff for us. Jane, I must say that your article makes the world of Geos sound very attractive.

I spend so much time outside of Geos that I doubt if I'll ever get to be that good with it, but I can see that as the editor of Loadstar I owe it to my readers to support it more than we have in the past. I'm working on a deal ... for ... a distributor of Loadstar down-under. It's something I've wanted for a long time but I expected hassles from Softdisk. I was pleasantly surprised to find that the big bosses were all for it. ... If all goes well [we] should be able to offer it at a much lower price [in Australia]."

*Gg. Thanks Fender, for your generous opinion on my column. I am pleased that you have enjoyed it so far. The 'piccy' was a dead give away alright, I suspect that it was 'sprung' on me for fun, it certainly did make me laugh for a while!. Loadstars readily available in Australia, excellent !!. As a subscriber, I can barely wait. Hopefully this opportunity will get the support of more Commodore users in Australia, and increase the number of subscribers. Both Loadstars /64 & 128/ are chock-full of interesting and useful programs, and they are a MUST on my list, especially with the added benefit of GEOS coverage. When my next Renewal comes up, you can certainly count me IN. I am sure readers saw the great introduction to this by John Buckingham of JDB Software NSW in the Dec94 issue, along with the handy Subscription form. Get to it one and all.*

*Gg. Some readers know that I haven't been too well lately. Since my spinal injury received a severe jolt on 23 Oct 94, it has been aggravated to the extent that I have had to spend a lot of time on bed again over the last three to four months. Once in a while, something happens to add insult to*

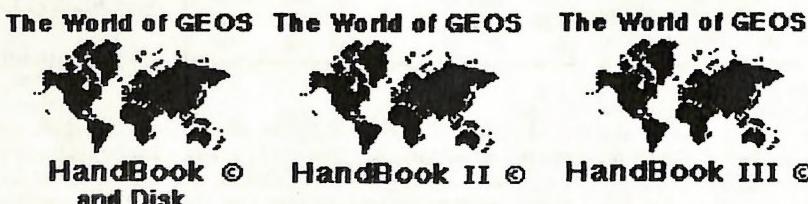
*injury so to speak, and that sets me back a lot, and it truly has been quite a struggle. I would just like to thank those readers who sent me their support, and get well wishes in their letters. Thank you all.*

Before getting back into Reviews, over the next two months I am going to take you for a look at how you can improve your GEOS, from the stock standard system that came in your box. We will get back into the new Review material in the May95 CN. Until then, happy GEOSing.

Send in your comments, or great GEOS discoveries, and I will respond when I can in this column, unless you wish a private reply, in which case please send a SSA(Business)E and I will write you back. Special thanks to Rick Coleman (Photo Mover fame), our USA GENIE BBS correspondent for your continued support, and to Michael Renz (Performance Peripherals Europe), our German correspondent, for your continued support. Also, special thanks to Jeff Carey of C64/128 Public Domain Software (SA) for the temporary loan of a BBRRTC for use with GEOS, on the number two C128D.

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(\*\*) The World of GEOS HandBook Series (I, II, III), The HandBook of the Commodore 64, The HandBook of the Commodore 128, and The HandBook of Commodore Disks, are currently available from JMV Grafix



The HandBooks are available folded and saddle bound to A4 size, for AUD\$15.00 each\* (includes P&H), from

**JMV Grafix  
P.O. Box 635  
Blair Athol  
South Australia 5084**

Cheques Payable to Jane M. Jones \*Overseas Orders add AUD\$5.00

Now, I don't know about you, but I love my 128. I think it's just about the best computer ever built. In fact, I think it's as near to perfect as a computer of any sort can get! But one thing has always intrigued me . . . the expansion of the 128's internal RAM.

Imagine having 256k or 512k at your fingertips, the programs you could run, the things you could do. You could install on-board RAM disks, ready for recall, or layer after layer of interrelated software accessible instantaneously from a main menu - heck, you can do that now, but these would be MAJOR programs, not just glorified subroutines!

Can you imagine something like GEOS operating solely within memory, having no more modules to load, or disks to access, would make the system a breeze (mind you, loading time might be a bit extensive!) to use. The extra memory wouldn't speed up something like the time it takes to draw a screen, or the inability of GeoWrite to keep up with my typing. These would both need an increase in actual operating speed of the machine. Nevertheless, I feel an entirely memory resident version of GEOS would indeed be something worth getting hold of.

But this is straying from the point of this article, which is a brief discussion of internal memory expansion on the 128. This is not meant as a guide to expanding your machine, but, hopefully, it will excite someone in to actually putting pen-to-paper on this subject, and presenting myself and like-minded people with a little more of an in-depth discussion (and perhaps a project article/schematic) on the subject.

From my reading, it is obvious that, over the years a number of theories on internal RAM expansion have been promulgated, and, indeed, a number of projects put forward by various individuals. Many of these theories have been proven flawed, and, indeed, more than one of the projects have been shown to be at best misguided, at worst, bogus.

Nevertheless, there has been some excellent work done in this field by Richard Curcio, who at first, apparently, based himself on the work of Paul Bosacki and his expansion of C64 RAM (another

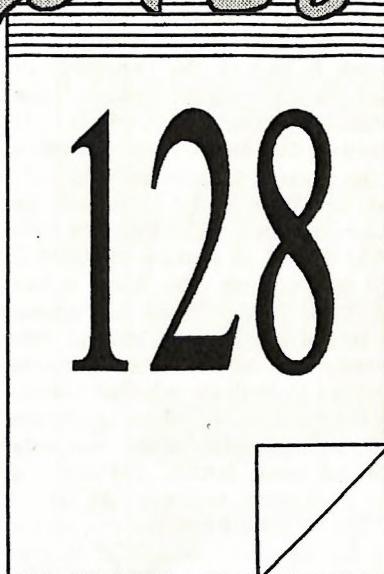
subject I'd like to see covered in the pages of Commodore Network).

### **WHY EXPAND YOUR INTERNAL RAM?**

Really, the reasons why one would want to expand their internal memory are very personal. There isn't (as far as I know) any software to support such an expansion, so we are not in the same boat as Amiga or P.C. owners who quite often need a minimum of memory before a piece of software will work for them, and external R.E.U.'s fulfil almost every requirement that extra internal memory would, with the advantage of being disconnectable and transportable to another computer system. This is especially advantageous if you have some sort of battery backup so that data is not lost in the transfer. However, even RAMdrives take time, and the thought of almost instant access to numerous programs salted away in various banks of memory is just a little intriguing, isn't it?

But, heck, If the truth be known, I just love the thought of having a Commodore 256 sitting on my desktop. You could also, I suppose, chuck in the 64k of VDC RAM I have aboard, and consider my baby as a Commodore 320, hmmmm, sounds good!

As I said in the opening to this paragraph, it's a personal choice, and I must admit that technolust (as Warren says) is my principal motivation. That, and the thrill of knowing that this is my computer, and it can be modified and



personalised to my liking and my needs at minimal cost. My brother started out on a 286 and now has a 486 (thinking of a Pentium). He spent more money last year than I have spent in the past ten (including my initial system purchase) on his system, and he's still not satisfied! Sure, I may not have the memory or operating speed he has (even when I expand the 128) but I enjoy my system immensely, and I'm not afraid to tinker with it. I suppose it's easy to understand any reticence when they have \$3,000 plus on the line!

### **BACK TO THE SUBJECT AT HAND**

Let's get back to what we set out to talk about. As I've said elsewhere, what information I have is minimal, but I will pass on what little I have here and now in the hope that such an article will tempt some more knowledgeable person to expound on the principals involved (geez, I like those big words, don't I!).

As I understand it, additional RAM can be added to our machines by simply installing a little additional hardware in order for the 128's microprocessor to access said RAM directly rather than as a RAM drive. The RAM itself will be installed in the "missing" memory banks, #1 and #2, the problem being just how to arrange adequate access to our now active additional memory.

One theory rested on setting a latch to capture bit 7 of the MMU Configuration register at \$FF00 and \$D500. This proves to be

inadequate, though, as just capturing the bit and using it to switch in one of the two pairs of 64k banks would cause our common memory, which is essential for the normal operation of our system, to become "relative". That is, Part of RAM 0 will be common with RAM 1, but not with RAM 2 or 3. A portion of RAM 2 will be common with RAM 3, but not RAM 0 or 1. There just seems to be no simple way around this because our MMU doesn't provide a signal to indicate whether access to RAM 0 is ROM or common access that over-rides the currently selected bank. BASIC 7.0 uses the pre-configured registers (PCR) at \$D501 to \$D504 extensively, and if a value is stored in a PCR it gets transferred to the CFR (MMU Configuration Register) when ANY value is stored in the corresponding Load Configuration Register (LCR) at \$FF01 to \$FF04. This means that bits 6-7 of \$FF00/\$D500 would be effected, but would not show in the latch. To cut a long story short, the end result of this method is that the probability is that it would take too many chips to just double our

memory.

Additional circuitry would need to be programmed to "know" ALL the details of the information being passed to our MMU and, if necessary, duplicate its actions. And, of course, the mere capturing of a single bit is not going to be sufficient to keep track of common memory amount and location, the actions of the Pre-configuration and Load Registers and VIC and DMA access.

It seems that, in order to deal with all these complexities and still keep the quantity of IC's we need to use to a minimum, we will need to install a second MMU and sufficient support circuitry to allow our two MMU's to work side-by-side whilst handling all those details we have just discussed. This should result in a machine which will access our new blocks of memory just as if it had always had them. If desirable, it should even be possible to install a switch to "un-modify" our equipment for any reason.

## LIMITATIONS

Unfortunately, apparently none of the extra memory installed in this way will be available in 64 mode, but I feel that, if someone is persistent enough, we could possibly see this change in the future. In fact, I believe that someone has already discovered a way to access all of the 128's memory from 64 mode, but I haven't seen it. Perhaps Warren can track it down? (Warren - thanks! you are all too kind!).

The second shortcoming is that the MMU's cannot relocate the zero page and stack to the new banks. It seems that such is achievable, but the added complexity makes it not worth the effort.

## STILL MORE!

In this overview, I've concentrated on expanding our machine to 256k, but expansion out to 512k or even one Meg may be possible. I look forward to finding out.

¶

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A mate of mine came to visit me last weekend. An inveterate 128'er who never leaves the native 80 column mode without a Cerepax and half-a-bottle of Johnny Walker. Naturally enough, the main topic of conversation centred around our 128's, and the relative strengths and weaknesses of the various modes of operation. Of course, I was the defender of CP/M. I'm not really sure what he was, except, perhaps, drunk!

In any case, one thing we did agree upon was that CP/M SEEKS to be left in a backwater. We constantly seem to have problems implementing new hardware, and there seems to be NOTHING new in the way of software coming out for this mode.

I didn't like it, but, at that stage, I couldn't argue!

I didn't know that there may be ways and means (if there are!) to do things, and I had most certainly never programmed in CP/M, since, as far as I knew, this particular facet of computing was impossible without horrendously complex (and doubtless, expensive) software tools.

Nevertheless, our discussions did prompt me to do one thing - LEARN! - and learn I did!

I contacted Warren, and he promptly arranged for his CP/M snippets file folder to be popped over to my place (we don't live too far apart). I was amazed! Page after page of printout where I had only expected perhaps 20 or 30 sheets at most.

In this months column, I will pass on some of the more interesting bits and pieces I picked up.

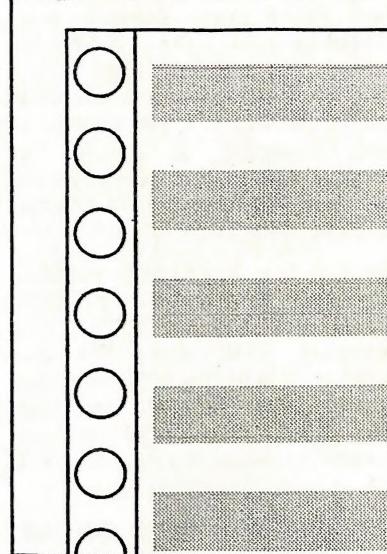
### 1750 REU DEVICE CHANGE

From apparently the same source (different correspondents) comes this little bit of information regarding the setting up of your 1750 REU as device C:

As many of you would realise, REU's are normally set as device M: (for Memory as I understand it), but you can change the REU to another drive ID by simply typing in this:

CONF POKE xxxx = 96FB

In this case, the xxxx represents an



## PERSONALISING CP/M

address for each drive as allocated in the following table:

A: FBD1	E: FBD9	I: FBE1	M: FBE9
B: FBD3	F: FBDB	J: FBE3	N: FBEB
C: FBD5	G: FBDD	K: FBE5	O: FBED
D: FBD7	H: FBDF	L: FBE7	P: FBEF

Using this table, we would find that, to change device M to device D we would type:

CONF POKE FBE9 = 96FB

The above allocates the RAMdisk to drive D, but drive M remains as the RAMdisk also. In order to de-allocate drive M, simply type:

CONF POKE FBE9 = 0000

Warning: Don't allocate the RAMdisk to drive E as it will conflict with the virtual drive of drive A. The above commands can be placed in a PROFILE.SUB file for automatic execution on boot-up.

### GETTING THE BOOT

This little lot tells you how to set your CP/M to boot from a 1581 drive designated as drive 9 (or any other number, for that matter).

First, format a 3.5" disk and copy CP/M+.SYS and CCP.COM to it.

Now, using a CP/M sector editor change the bytes shown below in the CPM+.SYS file. The addresses and sectors assume that the file begins at address 000, and that the first sector (or record) is 0. This will mean, of course, that should your file begin at 100, you'll need to add 100 hex to the given address, and if the sector is one, you'll need to add a one to the sectors as you proceed.

Address	Sector	Byte
0E6E	1C	01 - 01
= device 8, 02 = device 9, 03 =		
device 10, etc., etc.		

112F	22	00 - 00
= device 8, 01 = device 9, 02 =		
device 10, etc., etc.		

Now, don't forget to save these changes to disk.

Once that is complete, switch to 128 native mode and, with a sector editor, change the following bytes:

Track	Sector	Position	Byte
40	5	45	8 -
device number 8, 9, 10, etc.			
40	8	117	8 - as
above.			

Ensure the byte you are working on is the right one by checking the sequence 169 - 15 - 162 - 8 on both sectors. You will be changing the 8 on the end.

Once completed (and saved), all you need do to load from any drive is insert your boot-disk into the desired drive and type: BOOTUx, with x being the drive device number (i.e. 9, 10, etc.).

### CP/M and RAMLink

I must admit that this is news to me, but, apparently, CP/M can utilise

the storage space of RAMLink, at least in a very limited way. According to the RAMLink manual, you can only work with a 1541 emulated drive due to certain restrictions which I won't go into here. However, it appears as though, with a little deviousness, you can also use 1571 format partitions quite successfully.

The trick is to format your partition outside of CP/M and then MCOPY (whole disk copy) a 1571 CP/M formatted 334k disk TO that partition. It will, for all intents and purposes, then BE a 1571 partition with 334k of CP/M storage. Hmmm! I wonder if you can do this with 1581 disk partitions as well?

### YOUR 1581 AND CP/M

I don't have a 1581, but I have often wondered how I'd go about using one in CP/M mode, especially since I don't have the 1987 CP/M upgrade.

This little article tells you how to go about modifying your system so that you can use your 1581, even if you don't possess the latest disk.

The first thing to be done is the formatting of a CP/M compatible 3.5" disk. In many cases, the use of FORMAT.COM from within CP/M will fail the task as many of the older versions just do not work with the 1581. It is therefore better to format your disk from OUTSIDE CP/M, the problem is, though, that any disk formatted thusly would obviously have the usual paraphernalia (directory, BAM, etc.) associated with a disk formatted on a Commodore. Not so! If you use the following command set, the disk will be formatted exactly as usual except that the directory, BAM, etc. will not be present, and that the disk will be filled with \$E5's, the CP/M blank disk byte. This results in the disk being quite usable within CP/M, but, as things stand, only about half of the room available will be accessible.

To correct this, we will have to make further modifications within the CPM+.SYS file itself, but more on this shortly. For now, let's format that disk! Here's what to type (in direct mode):

OPEN #15, 9, 15 - providing that your 1581 is set as device 9, otherwise alter the 9 to reflect the

1581's current drive number.

```
PRINT #15, "U0" + CHR$ (134)
+ CHR$ (2) + CHR$ (79) + CHR$
(10) + CHR$ (0) + CHR$ (229) +
CHR$ (1)

CLOSE #15
```

Naturally, you should press <RETURN> at the end of each line, and please do not enter the text after the second #15 in the first line. That is just meant to let you know that the 9 represents your 1581's device number.

That done, we now turn our attention to CP/M itself. What we will need to do now is alter a few bytes in the CPM+.SYS file, so the first thing we do is boot CP/M. Take note of the version date as CP/M boots up, you will need this information a little later on.

Once all is in readiness, you will need to format a work disk on your 5.25" drive and copy across the CPM+.SYS, CCP.COM and either SID.COM, DDT.COM, or any other suitable debugger utility. If you have it available, a copy of SHOW.COM may also be advantageous. By the way, SID.COM came on the CP/M additional utilities disk.

We will now work with this backup disk (I have learnt through hard experience NEVER to work on originals). Now we can start "tweaking".

With backup disk in drive (and original CP/M boot disk safely out of harms way!), type:

SID CPM+.SYS <RETURN>

This will install SID.COM and cause it to access CPM+.SYS. A status message similar to this should now occur after a short pause:

```
CP/M 3 SID - Version x.x
NEXT NSZE PC END
zzzz zzzz 0100 CEFF
#
```

The # at the bottom of this sample is SID's input prompt, so we can ignore this for the moment. The zzzz characters represent a hexadecimal number which you will locate in the chart at the end of this article. Jot this down for future reference as it will be needed when we come to save our changes to disk.

At this stage, it is worth noting that

our 1581 supports a similar format to the EPSON QX-10, with the only difference being in the number of tracks per side (a 1581 supports 80, whereas the Epson has 40). This actually makes things just a little easier since we can simply alter the Epson parameters to suite our needs instead of starting from scratch as may otherwise be necessary. Don't worry, our modifications won't "cripple" our access to Epson QX-10 disks, it will just modify things slightly so that we can also access 1581 drives. The only side effect when using an Epson formatted disk will be that our computer will expect more room to exist on the disk than does, so writing to one of these disks may cause a drive error if the disk is nearing its capacity.

OK, with SID up and running, type:  
YYYYY<RETURN>

the "D" is SID's Display Memory command. The value of YYYY should be taken from the chart at the end of this article. Please ensure that there is NO space between the command (D) and the parameter (YYYY) or an error will occur.

A display similar to this should now be shown:

```
YYYY: 50 00 04 0F 01 BD
00 7F 00 C0 00 20 00 02
00 02 P . . . . . . . .
```

```
YYmm: 03 0A 45 70 73 6F
6E 20 51 58 31 30 49 A5
00 81 . . Epson QX-10I . .
```

There will be other rows of similar hex numbers, with the usual # prompt bringing up the rear. As you will have guessed by now, we are setting about changing some of these.

To do this, we use SID's "S" (Set Memory) command like so:

Sxxxx <RETURN> - where xxxx is a value taken from our table.

SID will respond with an address and its current value, and you will need to type in the value you desire the location to hold. To do this, all you have to do is type in the new hexadecimal number and press <RETURN>.

SID prompt	Current val.	Alter to:
xxxx	01	00
xxx1	BD	86
xxx2	00	01
xxx3	7F	.

- this takes you back to SID's main prompt and doesn't alter the value

of this location.

If you like, you can also change the disk type name to whatever you like. For the purpose of demonstration, though, we will use the hugely original name of "1581". Type:

Snnnn

Where the value of nnnn is arrived at via usage of our little table.

When SID prompts us with: nnnn 45, type a quote ("), three spaces, 1581, three more spaces, and then <RETURN> .

That's it, job done! Er, well, almost! It may be appreciated I feel, if we manage to save our alterations to disk. To do this, we use SID's W or Write command like so:

WCPM+.SYS 0100 zzzz  
<RETURN>

All done? Well now all you have to do is reset your system, boot CP/M (via our newly modified disk), and hey presto, we off and running.

**TABLE 1**  
**CP/M+.SYS FILE ADDRESSES**

Values by CP/M version date			
Parameter	1 Aug.'85	6 Dec.'85	8 Dec.'85
zzzz	5D00	6400	6400
yyyy	1400	2161	2161
xxxx	1404	2165	2165
nnnn	1412	2173	2173

## IN ENDING

I think you'll agree, there's some interesting snippets here. There is a lot more to be found also, I'm sure, amongst Warren's CP/M files. He is, in his spare time, cataloguing and cross-referencing his entire information library but, unfortunately, his CP/M section has not been touched and there is a lot of "wading" to do to get through all this information.

Having seen the number of volumes (some twenty lever arch files, each containing up to 500 pages), and with each page often containing up to a half-dozen pieces of information) he has to work with, not to mention the foot high stack of "info" sheets he hasn't got around to filing, or the hundreds of magazines, catalogues, and books which he also intends to include in what will be, I'm sure, a massive database of material, and being well aware of the amount of "spare" time my friend gets, I've volunteered to help sorting and cross-referencing the CP/M library. I'll keep you informed of anything interesting that I may turn up.

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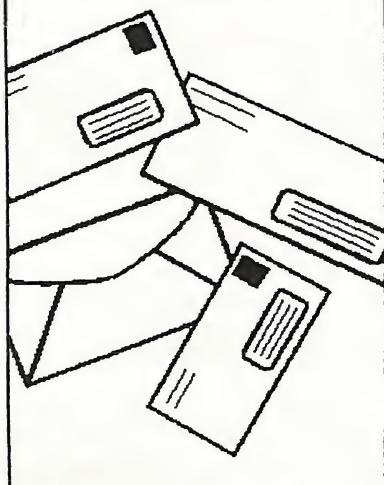
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**Commodore NETWORK**  
February 1995

# Letters Link



Welcome to another month's Postal paraphernalia. As usual, we have a bit of something for anyone amongst this lot, so read on.

## DWEZIL AND NEWTOOLS2

First off, from Jane M Jones of South Australia comes this little gratuitous plug.

Referring to the December '94 CN Letters Link in which Paul Williams of NSW is requesting information about GEOS Dweezil and NewTools2 programs by Quincy Softworks' David B Ferguson. I would like to refer Paul to a great publication that Reviews and gives extensive coverage to these programs. I refer, of course to 'GEOS in Review' from JMV Grafix, and Reviewed in CN's October '94 issue. The answers to the questions, are the programs 40 column ?, or are they 80 column ?, can be found there, for only A\$10.00, along with much more information required by GEOS users in general.

An excerpt from a letter written by David Ferguson in January of last year goes as follows "Although I no longer program for or use my 128 much anymore, I am still very much in business and will continue to provide my products as long as people wish to buy them." As to whether anyone in Australia has snapped up the distribution rights, I haven't heard of it yet. David can be contacted at QUINCY Softworks, David B. Ferguson, 9479 E. Whitmore Ave., Hughson, CA 95326-9745, U.S.A

Thanks for the info, Jane.

## HARD COPYING

Into N.S.W., where Charles Quinn writes as follows:

I have here copies of "Pocket Writer/Planner/Filer 2. They are all originals, so I don't want to use them in case something happens to them, like when I used my original GEOS and MAVERICK disks and then had to have them fixed!

My Maverick 5 has the parameters to copy these disks, but it also uses a custom copier that needs 8k of drive RAM. As you know, a 1541 or 1571 only have 2k of RAM.

To install 8k of RAM in a drive would cost as much as the software I'm trying to copy, so what do I do? Use the originals and hope I don't stuff them up, or pack them away and not use them at all! What do you suggest?

*In answer to the latter part of your question, backup or no, I'm damned if I can see the value of owning software if you are not going to use it - take the chance! But before you do, I may be able to arrange for a backup copy of your originals as there are several people around who have the 8k extended RAM installed in their drives. Interestingly enough, installing this is one of the many projects mooted for publication in "Expanding Horizons" during 1995. Whether we carry the project will depend on a number of factors though, including the perceived interest level of readers in such a project.*

Warrice Naismith

## MY PRINTER DOESN'T GET ENOUGH TAIL (LIKE ME!)

Charles went on to ask:

Why don't the bottoms of the letters that go below the line (as in P's, G's, and Y's) print out on my printer?

*A couple of the earlier Commodore printers apparently lacked "descenders", which is what the part of the letter which drops below the "line" is called. Over the years, quite a number of modification kits and such-like have appeared to address this shortcoming and allow modification of a printer in order to produce a "full" letter on print-out. The only one that springs to mind at the moment, is "Printkit IV" for the MPS803 which enjoyed a review in the June '92 edition's "Expanding Horizons" column.*

## RESPONDING TO DOREEN

Up in sunny Queensland, and Don Williams writes:

I would like to correct the view of Doreen Horne (Letter's Link, December '94). Doreen has misconstrued what I wrote regarding the Disk-Coverer disk. I wasn't complaining about the text files for the various GEOS programs, but about Peter doubling up on his Readme files which outline the contents of the files on disk.

I agree with Doreen's comment about the absence of text files with utilities, etc. The Mah-jong game has an excellent documentation file, but it was missing from the last GEOS disk, and on the first GEOS disk, an essential photoscap was missing, though it was replaced with another.

Yes . . . editorial licence is good, but so is good, honest criticism when needed!

*Well, I can't really respond to this except to say that regarding the Mah-jong documentation, Peter realised his mistake and has included it on the next Disk-Coverer GEOS disk.*

## ACTING UP

Now, down in our nations capital (Canberra in case you didn't realise!), and Matt Blydenstein,

president of the Commodore User Group (ACT) writes:

In your December edition of C.N., you made mention of our newsletter becoming runner-up in a competition that you ran. At the same time, you stated that you were not aware of the status of the group. As President of the COMMODORE USER GROUP ACT Incorporated, I wish to inform you that we are still going, not strongly, but still going. Ted Woodwell has kindly consented to continue as editor of the newsletter, and is, at present, preparing a January/February newsletter. This will go out to all members, financial or not, who were on our books at the beginning of 1994.

We have been having regular meetings at all three venues, being only attended in some areas by only a few stalwarts. However, those who have attended have said it was well worth while.

A special effort will be made from January to re-establish everything on a sound footing again. Below are the meeting dates and contact numbers for our group.

#### COMMODORE USER GROUP ACT INCORPORATED

#### MEETING DATES 1995

##### NORTH SIDE

2nd THURSDAY each month at 1 Kitson Place, FLOREY, contact Gordon Wormald (06) 258 2259

##### SOUTH SIDE

4th MONDAY each month at WODEN TRADESMENS CLUB, corner Launceston and Furzer St., PHILLIP

##### SOUTH COAST

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*Good to see something being done up in Canberra. CUGACT was a very strong club for quite some time, and it's good to see the "core" of the club getting together and working towards re-establishing it*

*in its rightful position. I hope those in and around Canberra and the South Coast will do their bit and join.*

#### PARSEC PROBLEMS?

Up in Balgowlah, N.S.W., and Norm Hansen writes:

Please find enclosed a letter from Parsec, the publisher of "Twin Cities" in reply to my question regarding if they were going to let C.N. be their agent in Australia. I received it before Christmas, but did not send it earlier due to the holiday period. I don't know any more than what is in the letter, so will leave it to you. Their new magazine is quite good, but distribution is bad. They owed me issues #35 and #36, and so far, I have only received the latter.

The letter from Parsec reads in part:

As for Commodore Network Australia taking over distribution, that is unlikely unless I hear back from them, with a good reason, why they are illegally distributing software I own (Kent Smotherman's GEOS games to start, etc.).

*Hmmm. Perhaps I had better do some explaining here for the readership. I entered into a deal with Kent Smotherman some time back regarding the distribution of his work here in Australia. Amongst those agreed upon was the GEOS games package, and it was the first of several items planned for release to be made available.*

*Shortly thereafter, rumours of Kent selling the rights to his software began to circulate. I made several attempts to contact him to no avail, and I was forced to shelve plans for the release of the other items despite being assured that I could legally do so. I also stopped promoting the GEOS games package.*

*Now, if I were to be about to sell pirated material, I could assure you all that there are far more lucrative lines than The GEOS Games Package. The pity is that through a lack of communication, this occurred at all!*

*As for distributing "Twin Cities", I have said in the past, and I'll say again, that I am interested in principal, but there would need to be a marked improvement in regularity of publication so that I*

*could feel comfortable with accepting subscriptions. I am interested in looking at Parsec's other lines, and will continue to pursue this angle if we can straighten out this misunderstanding.*

*Many thanks, Norm, for bringing this to my attention. It would have been nice if Parsec themselves had bought it up, but that's life! It appears that they either did not even know of the agreement or did not bother to follow it up when they were informed.*

#### SMARTTRACK

Norm goes on to write:

I agree that the CMD SmartTrack (track ball - reviewed in C.N. recently!) is better than a mouse with GEOS, but the price is very steep. After landing here, it had cost me around \$134.00. The price will probably turn a lot of potential users off buying it.

*Very true, Norm. The SmartTrack is an excellent piece of equipment, but its price is a very definite turn-off to the majority of users who would otherwise more than welcome it. I know Novo will not be importing it, simply because the price that it will be necessary to charge is just too high.*

#### COMBINING SUBSCRIPTIONS

And still further into his letter, Norm says:

Would it be possible to lump my Commodore World, Commodore Network, and other bits and pieces, such as disks, under one cost so as to make it easier for both you and me?

*I'm sure we can arrange something, Norm. The most obvious solution would be to pay a pro-rata amount for four issues of Commodore World (\$38) to bring it in line with your Commodore Network subscription. This would mean that both subs should fall due at roughly the same time.*

#### ROM CHIP

Still in New South Wales, and Nicholas Dudman writes this query:

A few weeks ago I read a Commodore User magazine and there was an ad about a ROM chip kernal which you mounted into the

computer's circuit board. This speeds up the computer's disk speed by up to 6 or 7 times. I am looking for something similar to this, but don't want to spend too much money, could you recommend something of around the same price range?

The chip I am talking about is called the "TURBO ROM II".

I would also like to know where I can get a cheap C64 printer?

*At present, the only similar chips that I know of available in Australia are Jiffy-DOS from Novo Computer Hardware, and the Cockroach Turbo-ROM, available from Woombug in Queensland. To my mind, Jiffy-DOS is probably the best of its type available anywhere, but cost will be a major consideration. I don't have a current price, so it may pay to contact Novo Computer Hardware on (049) 201 102. The Cockroach Turbo ROM is sold for \$45.00 uninstalled, or \$50.00 installed in your computer and is also a worthy consideration. Unless you can deliver and pick-up your machine personally, you'll also have delivery costs to/from Woombug to consider. Write to Woombug, attention Scott Roseboom, C/O Post Office, Woombye, Qld., 4559.*

*As for cheap printers, well, cheap is a relative term. I've seen printers advertised second-hand for next to nothing in the various "Trading Posts" around the country, and quite often garage sales or "Trash and Treasure" markets can turn up some real bargains. If second-hand is the way you decide to go, you might also like to try your nearest "Cash Converters" or pawn shop. Of course, buying second-hand has its drawbacks, not the least being lack of warranty and further support should things go wrong. As for new printers, I've seen the Samsung SP-0912 9-pin dot matrix printer selling at about \$239.00. This supports full IBM Proprinter III and Epson FX-850 emulation and so should be quite usable with a suitable interface. Another "cheap" printer I've seen advertised is the EPSON LX-400 at \$249.00. This is another 9-pin machine and will also require an interface to work. Both of these are available from Rod Irving Electronics, 74 Parramatta Rd., Stanmore, N.S.W., Ph: (02) 519 3888, or via mail order from Rod Irving Electronics,*

*BAG 620, Rosebank MDC, Clayton South, Vic., 3169. It may also pay to hang around major computer and department stores. Quite often, as-new demonstration model printers are let go for bargain prices (a mate of mine picked up an Epson Stylus 800 ink jet printer for \$400.00 doing this recently - cheapest I've seen them new is \$650.00) and will include the full warranty and after-sales support normally provided with a purchase. Bear in mind that, with the right cabling, most printers will work quite acceptably with our machines.*

*this, of course, brings me to what, at times, seems to be the hardest part of attaching a printer to the Commodore 64, finding a suitable printer interface. Novo have a GeoCable and may be able to help with other interface types, or you can try and pick one up second-hand via our Micro-Mart column (free).*

## SECURITY

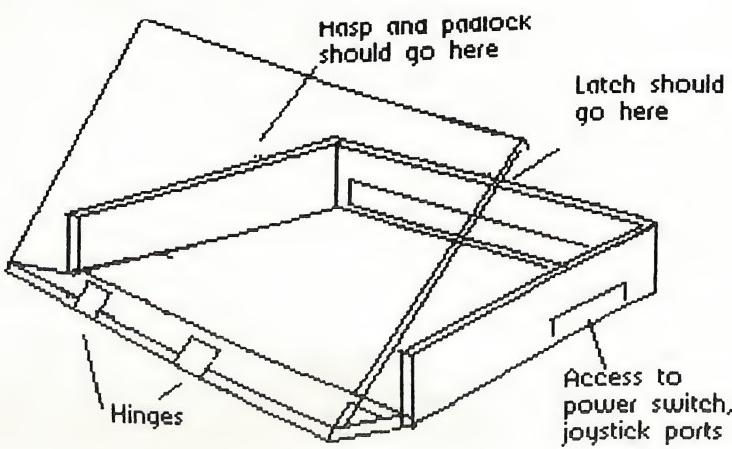
Nicholas goes on to write:

*I am looking for a way to put a security lock on my Commodore but don't know how to! I was wondering if you had any ideas?*

*Judging by the context of your wording, you want to stop people from handling your machine.*

*Firstly, there is no way of totally securing your equipment from sticky little fingers short of actually locking it away. If you are handy at carpentry, it should be a simple enough project to build a box to size, with the front and top being hinged to swing away from your computer on opening. The top should be hinged to the front, thus*

*leaving nothing to restrict access to the back of your computer when opened, and the padbolt, as a result, should be at the back of your box and on the top for easy access. Holes could quite easily be cut to size in the back and right side to facilitate any necessary plugging/unplugging of cartridges, peripherals, etc., and a vinyl or leather handle could be affixed to the front to allow your work to become a secure carry case should you need to move your computer for any reason. There are several permutations on this idea that you may prefer, such as a "lid" hinged on the back or side of your machine which can be pulled in to place and locked, or a box which can be fitted over the top of your system and bolted to your actual desk. Of course, if your motivation is simply a wish for others not to USE your system, the removal of the power supply or serial cable to the disk drive (or both), and the locking away/hiding thereof when your computer is not being used by you is an alternative. You could also lock the disk drive when not in use. All that would be required in this case would be light chain of sufficient length to wrap entirely around the drive from back to front, and a small padlock. The chain should be locked tightly in place so that it is not easily slid out of the way, and be placed in such a position as that it restricts the insertion of a disk into the drive. I'm sure that can be improved on, but it is a start.*



## WANTED

Diskcat by D.C. Tilford for the C64/128

### CONTACT:

Vic Mobbs  
P.O.Box 54 Landsborough Qld. 4550  
Ph: (015) 136 286

## WANTED

Perfect Print for GEOS

### CONTACT:

Don Williams  
Golden Sands Caravan Park  
Moore Park Qld. 4670

## FOR SALE

MPS 1230 Printer - \$175

### CONTACT:

Don Williams  
Golden Sands Caravan Park  
Moore Park Qld. 4670

## FOR SALE

Super Expander Cartridge -	
Enhanced BASIC	\$10
Top 20 Solid Gold -	20
Games	\$10
Hillsfar - Dungeons & Dragons	\$15
Curse of the Azure Bonds -	
Dungeons & Dragons	\$15

### CONTACT:

Warren Naismith  
9 Wadeson St. Cobram Vic. 3644  
Ph: 058) 711 863

## FOR SALE

Xetec Super Graphix Printer Interface - with fonts disk & copy of instructions \$85  
Casiotone MT540 Portable Electronic Organ with MIDI Receive capability. Includes power pack and MIDI cable plus Passport MIDI Interface (connects organ to C-64 and passes MIDI info between them). Also includes a copy "Music Shop for MIDI" (MIDI music generator/player) program for the C-64 along with two disks of Music Shop for MIDI music. \$210  
Epyx Fast Load Cartridge (new - original packaging with instructions). Cartridge

*Your Classified ads section.  
Free to Commodore Network Subscribers.  
Cost to Non-subscribers is \$2.00 per ad lodged.  
These ads run for a maximum of three issues.*

includes a Machine Language Monitor - 4 available

\$55 each

Epyx Fast Load Cartridge - As above, but secondhand with no instruction booklet - 2 available \$40  
RUN Magazines - February, March, April, and May '87 issues

\$3 each or \$10 the lot.

Freeze Frame Cartridge with Utility disk \$45  
Commodore 1351 Mouse with a copy of the disk and instructions - 2 available

\$50

Netcomm Auto Modem for C= 64/128 - 300 & 1200/75 Baud rates - with Netcomm disk and terminal program - auto or manual dialing - includes connections to C64/128 and phone \$45 Books - "Introducing Commodore 64 Machine Code" by Ian Sinclair (146 pages) \$15

- "Data Handling of the Commodore 64 Made Easy" by James Gatenby (122)

\$10

"Commodore 64 Programmer's Reference Guide" \$20  
"Compute!'s Commodore 128/64 Collection" (286



pages) \$15  
Official Comet Halley kit - Space Age Maths Games for the C64 - includes disk, flight chart, & Puzzle Cards \$12

All goods sent C.O.D. with postage/charges extra.  
CONTACT:

Jeff Carey  
Ph: (08) 294 8447 evenings and weekends only

## FOR SALE:

Commodore 128D (KeyDOS installed)

Commodore 1581 disk drive (Jiffy-DOS installed)

Commodore 1571 disk drive

Commodore 1901 colour monitor

Commodore 1700 REU (expanded to 1750, i.e. 512 Kb)

Commodore 1351 mouse

Commodore MPS 1230 printer

GEOS 128/64 software

Hundreds of GEOS files

Dozens of disks

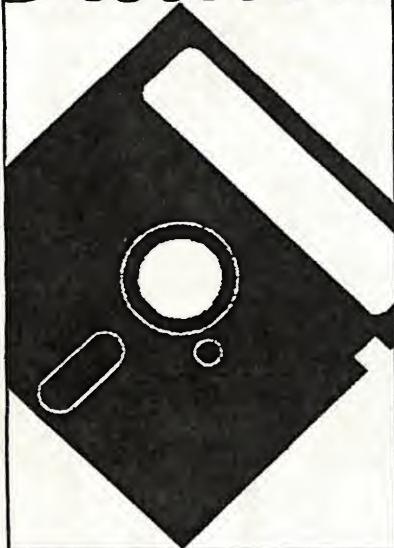
ALL FOR \$700.00 O.N.O.

### CONTACT:

Tim Stoner  
Ph: (09) 249 7589 after 5 pm Perth time.



# Discovering Disk-Coverer



It never ceases to amaze me just how quickly Disk-Coverer time rolls around. I just seem to have recovered from putting one out, when it's time to start all over again. Thank God for Doreen, Peter, and Bev, who do the bulk of work where these disks are concerned..

As all but perhaps the newest of readers will know, Disk-Coverer comes as a set of five disks, with each disk devoted to one of these categories: Applications, C-128, Entertainment, GEOS, and Utilities. One of these "category" disks is dispatched to each subscriber as befits that users interest. Which one you receive is based on what we know of your interests, and you may choose to change your category (there is no charge for this) or take more disks at any given time by simply remitting an extra \$1 a disk per three months remaining of your subscription.. All Disk-Coverer's, past and present, are available as back issues at \$2.50 (Australian Dollars) each at any time.

Now, a bit more on Disk-Coverer contents. The above category disks are only single-sided, so we've added a sixth category, "magazine", which fills the flip side of all disks, regardless of the category. The magazine category is designed to support articles published in Commodore Network, and to offer other support as is felt necessary (for instance, this Disk-Coverer has a text file containing a complete index of articles covered in Volume 3 of Commodore Network for you

to print out).

## APPLICATIONS

Please have a look at the DOC.READ THIS file. It contains information about the fast load system used by the menu.

### PULSING PICTURES 11

Whether this is an application or not is debatable but it is a very clever piece of programming. After loading the DEMO provided to get an idea of what results can be expected, one can have a lot of fun producing some very interesting screen effects.

Unfortunately the saved results can only be used when reloaded by PULSING PICTURES 11 itself.

(George Trepal and the Drone)

### RES.DECODER V3.0

Don Brooke took time off from his tidying up of the public domain to produce this very good looking and useful program.

For those working in the electronics field, it enables the determination of the resistance values of resistors by decoding their coloured bars. The program provides all the necessary instructions for its use.

### DISK LIBRARIAN V1.0

Originally by B-H.Lehmann who wrote two series of in-depth programming articles for the English YOUR COMMODORE magazine in 1988/9.

Unlike other databases for cataloguing disks, this one enables

the user to categorise the file names on the disk directory as each disk is read by the database. When setting up the database, and even further along the way, one creates categories such as GAMES, MUSIC, UTILITIES, WORD PROCESSORS and anything else required and as the disks are fed into the system each selected file can be assigned to its related category. The final result is the ability to print out a sorted list of each category without the hassle of keeping separate databases.

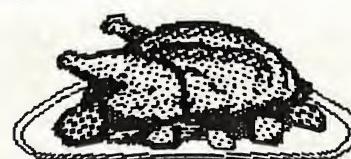
Anyone familiar with the original version of this program may recall that it used to either write a three character ID of its own computation to the disk being catalogued or, if one did not accept that, then used the disk's own ID as a catalogue number.

Either system is not a good solution so the program has now been altered to accept a four character catalogue number of the user's choice, which is not written to the disk being catalogued, whether write-protected or not.

For more information about this attractively presented program please read the DOC file.

As a matter of interest, the improving of the final category printouts from continuous to page by page is receiving attention and, if accomplished, the modification will be added to a future Disk Coverer.

### THE RECIPE BOX V4



From CEE-64 ALIVE who have included a large collection of recipe files. Some of these are interesting reading and should provide a source for experimentation for many who enjoy their stints in the kitchen.

The program has a very attractive introductory screen and provides, amongst other things, the ability to create your own recipe disk upon which to save your own special recipes.

The file RECIPE COMMENTS is a thoughtful insight into the reason

for some of the recipes from their creator, Mike Moranec.

#### KOALA LOADER.B

#### DOODLE LOADER.B

These programs enable one to dump to printer, in one of five different sizes, either a KOALA picture or a DOODLE picture. The programs are 1525/801 compatible.

If you don't wish to use the printer dump features, the programs make fairly fast picture viewers.

#### LABEL BASE64

Can record up to 250 address labels and from them provide either single labels one at a time for printing, selected ones or the works in whatever quantity required. Also provides the ability to print a phone list compiled from information on the disk labels.

A DOC.file is provided with information about printer control codes and a few other items.

(Bob Kodadek)

### C-128

#### MENU

An old program of mine that I dug up whilst digging through some old workdisks. All I've done is added a couple of lines to the original and hopefully I'll be able to tighten things up a little in time for the next Disk-Coverer. Works in 64 and 128 40/80 column modes. The built-in sequential file reader routines are slightly different for the 64 and 128, with 64 owners needing to press any key to advance a screen at a time whilst 128 owners can utilise the "NO SCROLL" key to pause the print-out as they wish. Please note that I was not in a position to test the printer dump routines, and these may not work with all printers. Autobooting in 128 mode!

#### LOTTO

Programmed by Rod Gasson of QWKRR fame, this program provides an easy means of automatically checking a large list of constantly used numbers against a winning combination. Comes with the results of the Australian Lotto Block draws 412 through to 889

#### HANGMAN

Another Rod Gasson offering. This is perhaps most notable

(notorious?) for its "R" rated section (tch! tch! Rod.). word files can be edited as required.

#### SWITCHAROO

Programmed by Barbara Muir, this is based on a board game of similar name. The object of the exercise is to move all the club "pegs" into those initially occupied by the diamonds, and all the diamond "pegs" into those positions initially occupied by the clubs, in as few moves as possible. The catch is (and there had to be one, didn't there!) that you can only move your pieces by jumping other "pegs", and that you cannot move along a diagonal axis. Type 0 to end the game.

#### DOCU-DISK

This program is a specialised database to help you keep track of your disks. Allows cataloguing by means of software categories.

#### DOMINOES 128

Just like the real thing! In this version, the computer is always first move and the domino played displayed in the upper left as well as graphically. Your hand will be displayed in the lower right of screen, and you play each by typing the two numbers that make up the domino (either order).

#### CHECKERS 128

A 40 column program, playable against either the computer or another individual. To move, use your joystick to place the cursor over the piece you wish to move and press fire. Now move your cursor in to the position you would like to move to, and once again press fire.

#### RYAN-DOS

A disk utility offering the following functions:

- file copying
- collect (validate)
- delete
- format
- rename file
- drive status
- exit to either 64 or 128 mode
- directory
- load - will allow loading of a 64 program in 128 mode, the

automatic switching to 64 mode, and the RUNning of the program.

- rename disk

### ENTERTAINMENT #11

Please have a look at the READ THIS file. It contains information about the fast load system used by the menu.

#### SEARCH FOR THE HOLY GRAIL

A graphics/text adventure. You have been given the task of searching for the Holy Grail and returning it to its rightful place in the Throne Room of Camelot Castle.

There is a disk SAVE/LOAD facility for stops along the way and for those who are still searching by the time another Disk Coverer is due, a solution will then be included.

#### SUBSUNK

An adventure created using 'The Quill', complete with sound and graphics, by Peter Torrance and Colin Liddle.

You are trapped in a submarine, by yourself, at the bottom of the ocean and without any knowledge of the operation of the vessel, you have to extricate yourself from this dreadful situation.

There will be a solution file on the May Disk Coverer disk - couldn't possibly leave you at sea indefinitely! Meanwhile you can SAVE/LOAD your progress. Whilst the word SAVE is sufficient, to reload your saved file you must type LOAD GAME. Also, as there is no save/replace facility included, each saved file needs a different name if you constantly use the same disk.

#### GOLDEN BATON SOLUTION

As promised on the November Entertainment disk

#### ADVENT.MAP PRINT

An adventure game location map printing program from Don Brooke. It has a beautifully designed opening screen and comes with an explanation for its use.

Generally speaking one is able to create on an A4 sheet a collection of boxes (five different options) for keeping track of those N,S,E,W

directions in an adventure game.

#### SUPER TACT

A computer version of Ludo. There is a DOC file on the disk with instructions for playing the game.

#### SPACE ONE



Fly through space avoiding the meteorites if you cannot shoot them. Although the game is a straight forward 'shoot'em up' it has a starkly beautiful background and there is a 'trainer' option provided.

#### SOCCER 64

Considering the size of the file, this is a very well presented version of TABLE SOCCER. Everything is done with a joystick in port 2.

#### GEOS

#### DUAL TOP

Excellent alternative Desk top from Paul Murdaugh

#### DBGETFILE1.1

By Jean F. Major. Updates the GetFiles dialogue box so as it is no longer necessary to click in order to scroll through the listing. Simply hold down the button until you reach the point in the scroll where you wish to be. Updates GEOS v1.3 and 2.0 for both the 64 and 128.

#### NEWSYSTEMERRV1

This one comes from Nathan Fiedler and is an auto exec file which replaces the "panic" box that appears in GEOS when a crash occurs, with a routine that will reboot GEOS from an REU or return to BASIC if one is not present.

#### NEWSYSTEMERRORV2

This version is by Jason Hoos and returns the user to Desk Top after a crash when the button is clicked.

#### GETITWRITEV1.0

Lists and allows the renaming of GeoWrite files imported into GeoPublish.

#### WRONGISWRITEV7

Allows the user to convert between the differing GeoWrite formats, Pet ASCII, and true ASCII. also allows

the changing of font or font style throughout a document.

#### SETCLOCKV1.1

German program to set your RTC?

#### SCRAPEEKV3.4

Allows you to view photoscapes. works in 64 mode, and in 128 40/80 column modes.

#### PHOTOMOVER1.0

By Rick Coleman. this helps you to organise your photo albums

#### PCX/GEOPAINT

By Doreen Horne. This program, run from BASIC, will translate IBM PCX format graphics to GeoPaint format. Geoviewer is included on disk so that you can view the resultant translations.

#### GEOPRT.EPSILON

A printer driver for use in conjunction with GeoViewer and written by Siamak Ansari

#### MAHJONG.DOC+

Documentation to Irv Cobb's mah-jong inadvertently left off the last GEOS Disk-Coverer. files to be printed must have a GEOPRT. prefix.

#### MAGAZINE

Found on the flip side of all disk categories.

#### MENU

As appears on the 128 Disk-Coverer. Works in 64, 128 40, and 128 80 column modes. Read the C-128 Disk-Coverer notes for more details.

#### APC-64

As reviewed in the December '94 "P.D.Power" column. Adds 37 new commands to BASIC. Please read the on-disk documentation file first before loading! Programmed by W.F. Kreykes.

#### DIGIPLAYER 2.0

Another item reviewed in our "P.D.Power" column in recent months. This one from this issue. Programmed by Mark A. Dickinson. Converts digitised sound files from the Amiga, Atari ST, Mac, and Apple II/GS to C64 RAW format files and plays them back.

#### MAH-JONG

Of all the Mah-jong versions I have, this is my favourite. Reviewed in the October '94 instalment of P.D.Power.

#### C.N. INDEX '94

Created by Arthur Whiting, this is the complete index to articles and snippets published in C.N. during the previous twelve months. A sequential file, use your favourite word processor to print it out.

#### GEOFAX DEMO

A demonstration of Maurice Randall's new software that brings fax facilities to the world of GEOS. A text file can be accessed from the menu, but the actual demonstration will need to be run from within GEOS. See this month's NewsWatch!

#### UTILITIES #11

Please have a look at the READ THIS file. It contains information about the FAST LOADER used by the MENU.

#### MEMORY TRANSFER

This utility offers a different view of the C64's memory locations than the one usually seen with a machine code monitor. All input is in decimal and one can view any block of bytes in an upper or lower case character interpretation and transfer code from one area to another.

The file MT INTRO, which can be loaded from the MENU or as a BASIC program, contains the programmer's comments and suggestions for use of the utility.

(Lee Bamber with bugblasting by Chris Bamber!)

#### DESIGNER V2.

The program designs screens in normal, multi colour low resolution or extended background colour mode in any 1024 bytes of screen memory in any of the C64's four video banks

A HELP screen (probably designed with DESIGNER V2) within the program details the many function key operations for scrolling, RVS on and colour changing when designing a screen but the actual drawing is done from the keyboard, where most keys perform as usual and produce shapes according to

the character set chosen.

The final creation can be saved as either a BASIC subroutine or one in machine code.

A DOC file provides some extra information.

(A.WARRINER)

#### ULTIMATE DATA MAKER V2.0

Will convert any machine code file into BASIC data statements. The output may be in either decimal or hexadecimal and a checksum may be requested.

Please be sure to read the DOC file provided before using this program.

(Mahmood Merchant)

#### TITLEMAKER

Using a multi-colour bit map picture one can create either a demo or main program picture loader. TITLEMAKER provides 15

different tunes from which music can be selected for your demo/loader and it is also possible to include a scrolling message.

The INST.file which accompanies this program can be LOADED and RUN like any BASIC program and the DOC file contains further information. Character sets and some picture files are also now provided.

(D.S.Comppare)

#### MERGE and DELETE

Two small but useful files. MERGE joins together two BASIC programs and DELETE used with MERGE makes it possible to remove unwanted line numbers from a BASIC program. Please see the DOC file for 'how to use' information.

AN APOLOGY to those who do not have a 1581 drive for using so much space on this disk for the

final collection of files. Unfortunately information and programs for the 1581 are hard to come by and this update of the 1581 DOS! program will probably be welcomed by those who have encountered the 'bugs' in the earlier version.

#### 1581 DOS!

This is V1.8 of the program which was included on the 1581 MASTERS DISK (V1.27). Many changes have been made. Part 1 of the documentary files compiled by the author has updated material whilst Part 2 describes new commands now added. The file 1581 DOS!.D is an overview of the changes made.

All this from Gordon A.Jenness in Nov.93.

## *Warren Naismith*

## *Bits & Pieces*

This month I've got another mixed bag for you. Everything from removing labels from disks to getting maximum compatibility in 64 mode on a 128. There should be something for everyone here!

#### CLEANING DISKS

Try using lighter fluid to clean the sticky residue of old labels from disks. Lighter fluid is an excellent solvent, and it won't attack plastic.

#### CARE CLEANING DISKS

That doesn't mean you can be careless, though. It is NEVER a good idea to let ANY foreign substance get on your disk media - that is, the shiny plastic disc placed within the disk jacket that you are cleaning. The cleansing substance itself may cause no harm, but a residue may be left on the surface if it is allowed to dry or as it is wiped away. This may then interfere with access to any information stored on the disk in that particular area.

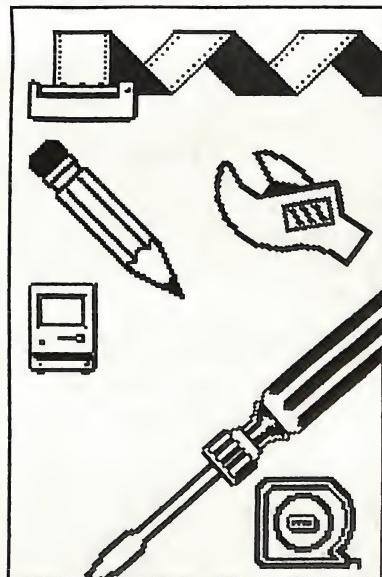
#### 128 SEQUENTIAL FILE READING

Type:

OPEN 0,8,0,"0:filename,S,R":

SYS41149

"Filename" is, naturally, the name of the sequential file you want to read. The "S, R" translates as follows: "S" indicates a Sequential file is accessed, and "R" tells the computer to "Read". The OPEN 0,8,0 is the usual file accessing procedure, with the first 0 setting the file number, the eight setting the



device number, and the last number (0) giving the command channel. Simply change the 8 to the desired device number to access drives with other addresses.

#### 64 AUTORUN

Try this one:

LOAD

"filename",8:<SHIFT><RUN/STOP>

Naturally, the program will load as usual, but what is different this time is that a "RUN" will be printed to screen and executed. Note that, upon pressing the <SHIFT><RUN/STOP> combination, the loading procedure will start automatically, just as if you had pressed <RETURN>.

Probably the most obvious use for this is when loading a large file which takes some little time to load in. You can type this in, press return, and go on and do something else, knowing full well that the program will be up and running when you come back. Even better, if the program being booted has sound or music (like a game) set your monitor volume high. When the program executes, the music is played, and you will know that all is ready and waiting. You can even leave the room and await your "alarm" elsewhere.

### IMPROVING 64 COMPATIBILITY ON THE 128

Have software that runs just fine on a 64, but refuses point-blank to cooperate in 64 mode on your 128? Try depressing the CAPS-LOCK key on your 128!

The CAPS-LOCK key on the 128 is mapped in at \$01 and returns a value somewhat different to what is expected by the 64 when the key assumes the normal position. By depressing it once you are in 64 mode, and then loading and running a program, location \$01 will hold a valid value.

By the way, location \$01 controls whether the banks of ROM, RAM, and the I/O are mapped in or not.

### CRASH TEST

I don't know about you, but I quite often find myself wondering if all is well during long disk operations. Has the drive locked up? Or is it still hard at work? How do you tell? Well here's an easy method that will tell you every time, all you need is a little patience. Try pressing the C= key and the <SHIFT> keys simultaneously a few times. If all is well, your on-screen character set will shift between upper and lowercase character set. Where does the patience come in? Well, remember, your computer is trying to do two things at once here. It's talking (we

hope) to the disk drive, and it's also reading the keyboard. Therefore, you may find that you will have to try this procedure a number of times before anything happens. That being said, if nothing has happened after several tries, you can assume you have a problem.

### RECOVERING FROM A SPLAT!

OK, you saved that text file you were working into the wee hours of this morning, and you've come back and tried to load it in. Lo and behold, you can't touch it, and, upon investigation, you find you are blessed with a splat file. How do you get out of having to type it all in again?

Well, it's good old Uncle Warren to the rescue. All you need do is type in this:

```
OPEN 2,8,2, "filename", S,M
<RETURN>
```

Now, with luck, you should be able to read the splat file out in normal fashion. Unfortunately, you won't be able to read the last block of data saved because it was never completely written, however, short of a major shortcoming in disk space when you saved, this should help recover the majority of any file. Once read and altered/added to as necessary, save it under a new name, preferably on a new disk. Don't forget to validate the disk on which the splat file occurred, by the way.

Just in case anyone out there is wondering just what a splat file is, it's an improperly closed file, indicated in disk directories by the presence of a "\*" immediately preceding the file type. Whatever you do, NEVER SCRATCH a splat file, always use VALIDATE to remove them, and always ensure that you DO REMOVE them, they will corrupt otherwise good disks.

### FILETYPE CHANGE

I'm always changing filetype. Program to Sequential, Sequential to Program, it's all in a day's work. Here's how it's done:

To turn a BASIC program into sequential format:

```
OPEN 8,8,8, "0:filename,S,W"
:CMD8 ; LIST <RETURN>
PRINT#8:CLOSE8<RETURN>
```

And, for Sequential to Program:

```
OPEN 8,8,8, "0:filename,P,W"
:CMD8 ; LIST <RETURN>
PRINT#8:CLOSE8<RETURN>
```

### BUG HUNTING

There is a little known bug in the C64's Binary to decimal routine. try typing in this small program to demonstrate its existence:

```
10 A=8388608.88
20 PRINT A*1
30 PRINT 1*A
```

Logically, the two PRINT statements should produce exactly the same results, but they don't!

### PRINTING A DIRECTORY

It's sometimes very handy to have a hardcopy of a disk directory available for reference, but it can be a hassle finding, loading, and running a routine to print it out for you!

But did you know that you don't need a routine for this chore? A few simple lines typed in in direct mode, and, hey-presto, a hardcopy of your disk directory. Here's how to do it:

type:  
LOAD"\$",8 <RETURN>

Once you are again presented with the READY prompt, type in the following line:

```
OPEN 4,4 : CMD 4 : LIST
```

This will dump the directory listing you loaded into computer memory to the printer (instead of screen). Once the printout is finished, type: PRINT #4: CLOSE 4 to close the channel to the printer and return you to screen output.

### SCREEN CODE TO ASCII

Here's a short-and-sweet one-liner for converting screen code to its ASCII equivalent.

A = ( S and 127) or ((S and 64) \* 2) or ((64 - S and 32) \* 2)

The screen-code value is stored in the variable "S".

### ADDING A DRIVE TO THE SX-64

Adding a disk drive to your SX-64 is quite possible. Of course, you must ensure that any new drive is hard-wired as a device number

# On the Scene

other than 8, or, failing that, that the internal drive is not device #8, otherwise you will find some conflict as the computer tries to access two devices similarly addressed. You can change the unit number of the internal drive with this routine. Make sure this is done FIRST, before you plug your second disk drive in to your computer.

OPEN 1, 8, 15 <RETURN>

```
PRINT #1, "M - W" CHR$ (119)
CHR$ (0) CHR$ (2) CHR$ (9 +
32) CHR$ (9 + 64) <RETURN>
```

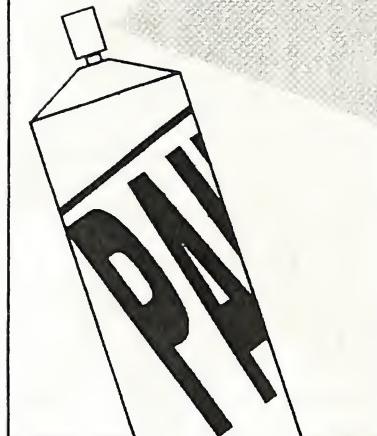
Now plug in your external drive and access it as device #8.

Alternatively, if you require the internal drive to be numbered as #8, and the external unit as #9, you will need to neutralise the internal drive first. Change it to, say, device number #10 by using a 10+ in place of the 9+ used in the example above. Now plug that external drive in. It will, naturally, be device #8 now, so, once again using the above routine, change it to #9.

Now, all we have left to do is to change device #15 back to device #8.

This is a lot of hassle for SX-64 owners, but, with a bit of imaginative programming, a front-end program could quite easily be written. This would then be the first program loaded in a session, automatically configure the built-in drive as required, prompt for the plugging-in of the secondary drive, and set its device number as required.

*with  
Heath Kirby-  
Miller*



Welcome back to another exciting look at the demo scene! Response to my first column has been extremely positive, with many people snapping up a copy of the disk containing the "grapevine #12" and "Two Years System". The good news is that I plan to make one disk (or more) available with each column I present, containing programs referred to etc.

## DOWNUNDA

The Downunda demo is unda way (sorry about that!). At the time of this being written (mid January),

the person responsible for spreading the word about the demo and linking the finished parts has been contacted by two Aussie groups, The Dark Realm and Pleasuredome Crew, who will be contributing. Furthermore a complete part has been received from three New Zealanders (each from a different group). If you're wondering how this works, one person painted some graphics, another composed some music and the other brought the whole thing together and tweaked it a little!

I have not seen this part, but I have heard it as being " fast and impressive".

Another group who will contribute a part is System International whose disk magazine "Smash" contains updates on the Downunda demo. In fact, by the time you read this "Smash 009" should be out, and with it some info on the Downunda demo - proof of what the Australian /New Zealand scene

is capable of!

## TRIVIA PART 1

Have you seen any of these Australian disk magazines? Darkness, Domination, Shredded, Lamer, The Grapevine, Vandalism News, Moonlight, and Smash.

## RECENT AUSTRALIAN RELEASES

The Grapevine #13/ The Dark Realm, Smash #08/System International, Domination,#2/Jazzcat, Shredded #5/Entropy, Lamer #1/Pleasuredome Crew, and Genesis/Systems International.

## RECENT EUROPEAN RELEASES

Metal Force #1, Jamaica #11, Nitro #17, Propaganda #14, Zoo in my 64/Fatum, Experience/Fatum, and Eiger/Nipson.

This is what I received since my previous column anyway. There's actually MUCH MORE that has been released than what I have listed. By the time this is published it is likely each disk magazine has advanced an issue or maybe two. In future, I'll hopefully be able to provide more up to date info.

## TRIVIA PART 2

Have you seen any of these European disk magazines? Skyhigh, Ingenious, Brain, Jamaica, Reformation, Revealed, Update, Gramer's Guide, Immortal Flash, Internal, Splash, Anarchy, Propaganda, Explorer, Earthshake, Talk a Lot, Mish Mash, Arise, Nitro

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Tel: (058) 711-863 (ask for Warren)

.... the list goes on and on!

## GAMES

Since my last column I've received around a dozen recent games from Europe, including: shoot-em-ups, platformers, puzzle games, strategy and multiplayer. In most cases the quality of these games is extremely good, and it just goes to show you that even in these times dedicated people are still doing their best for the C64.

## REVIEWS

First of all, a look at some recent Australian wares .....

\*SMASH #08/SYSTEM INTERNATIONAL: A disk magazine that has made a real comeback over the last few months! Well balanced content, including Australian and world demo scene charts, an interview with a friendly European scener (Intruder/Avantgarde) & a review of Eiger/Nipson, plus tests of 6 1994 model motorbikes and an educational chapter on vitamins!

\* LAMER #1 PLEASUREDOME CREW :

A new disk magazine! Presentation is nothing special. Basically, a series of notes accessed from a menu. Very little content relating to the demo scene. In the issue to hand there is a warning about Tandy's HCX Disks, information on C64 hard drives and fast loaders, and a true story of a "war" between sceners. In future, this disk magazine should include some "standard" chapters (it already has addresses). Australian charts would be a good idea, as it's a good way for the scene to gain some recognition. Maybe it's content is too general for its own good, but time will tell.

DOMINATION #2/JAZZCAT: A relatively new disk magazine! Relies heavily on contributions from other sceners in the form of artwork and music (a lot is done by well known Europeans, which no doubt helps the magazine's profile). The general editor (Jazzcat/Legend) is an Australian scener, whereas assistant editors are European! Anyway, DOMINATION is considered an Aussie magazine, which is a real credit to us! This particular issue includes all the usual chapters (news, charts, addresses, interviews etc.) BUT it is

biased towards the European scene. Surely some interviews with some well known Australian sceners wouldn't hurt?

## \*GENESIS/SYSTEM

INTERNATIONAL: Yes, this is a demo! Released late in November, after TWO YEARS SYSTEM, it includes such effects as a proportional scroller (which is like trying to read from a mirror!). Very nicely presented, with logos from some of System's newest graphicicians, Shockwave and Cheetah. It certainly shows that SYSTEM INTERNATIONAL are a group to watch in the future!

That concludes our look at some recent Australian productions, I hope you find it interesting. Remember there are plenty of other groups releasing magazines, demos, music collections, etc. I hope to get hold of some more recent material for future issues, so stay tuned.

## TRIVIA PART 3

Have you heard of these Australian and New Zealand groups? Shazam, Entropy, Extreme, Lithium, Bad Karma, Gothic Designs, Dragon, Tide and The Dark Realm.

Next up, a look at some recent European wares .....

\*ZOO IN MY 64/FATUM: A trackmo meaning this runs through unassisted (i.e. no need to exit parts with the space bar). The most original thing about this production is the name. A dypp effect, vector show, and three screen high picture of a water fall isn't exactly new. The dypp effect is called "dyppelicans", and the vector show "panther's attack in real time" which is quite absurd when you think about it! Furthermore the following message "greets to all my friends, especially Bear, Dog and Red Ape" must be a bit of a joke! The same "fatum" logo is included at the top of the screen up until the three screen high picture anyway. The two effects are demonstrated on the remaining area of the screen, between two raster bars. When the three screen waterfall appears, you can press the left arrow key to freeze it (erm, no, not literally, I mean to pause the screen). And that's "zoo in my 64", (which I must say is a misleading title). Nothing to go over, that's for sure, unless you can't bear to miss a recent demo!

\* EXPERIENCE/FATUM: A music collection from Bax. Twenty-four tunes are included. Apparently inspired by such bands Sepultura, Pearl Jam, Soundgarden, Pantera, Metallica, and Ice-T . . . you'll either love it or loathe it, I think (I must admit it contains a good version of "Heart Shaped Box" from Nirvana). Oh, there is some relief, in the form of "Far Away" from U2!

## \*METAL FORCE #1/AIRWOLF

TEAM: A new disk magazine! After some digitised music, an intro loads, with different pieces of music to listen to while reading scroll texts! Plenty of chapters in this issue, including charts, addresses, reactions, and news. Plus: The life of the c64 (its in the hands of the users) & Flash-8 (plug, plug Warren!!). The outfit is very good, with a loading screen and ticks next to chapters you've already read. A brilliant first issue, packed with well written text. A magazine to keep an eye on (have you heard about the man with the glass eye?).

\*NITRO #17: Over the years this magazine has grown! It is undoubtedly one of the world's best! Taking up one double sided disk, this issue includes demo, magazine and game reviews, three interviews with present sceners, Two with sceners long gone, and a chapter on assembler for beginning codes (this will be a regular feature). Plus everything you've come to expect!

\* EIGER/NIPSON: Includes effects converted from the Amiga. Such as a racing greyhound, a full screen animated dancing girl, the Intel chip in action, AGA colours and full screen animated cogs! Looks impressive, but because everything was converted from the Amiga, no great coding feat. This is one of those demos to show the Amiga (or even PC) owners. Ask them if they've considered upgrading! Space is short, so no more reviews this month, everything you've read about is available from ALTERNATIVE SOFTWARE (see ad this issue).

## COMING SOON

Or maybe new releases, given the deadline???

Disk magazines: Carramba / Avantgarde, Obituary/? , The

# The 1541 Disk Drive

23

wall/Power Age, Plan 9? (Plan 9 is coming from a U.S. group!).

Demos: Just in Blue/Graffity, Visual Delight 2/Hein Holt, and Mirage/Focus, Delusion/System International (This Aussie demo won't be ready until well into the year), Plazmolytic/React, Something from Triad (responsible for Red Storm, Wisdom, etc.).

Who knows what else?

## SNIPPETS

I thought you might find these of interest:

- companies rumoured to return to C 64 - U.S. Gold, Grandslam, Psygnosis, and Master Tronic.

- UK magazine, C= Format, apparently sells only 10,000 copies each month. Issue 50 is rumoured to be the last! (?). Last I heard, it was selling more like 25,000 copies. Who knows?

- party in Sweden in November '94 invited 3500 past and present sceners from around the globe. A new wave of demos will appear . . .

- The U.S. scene is alive, wait and see!

- Germany has a Plus 4 demo scene! "Vector Overdose" on the C64 was originally written for the Plus 4! Effects seen on the Plus 4 include a 121 colour fullscreen plasma and 512 interlaced dots. Recently, demos, games, utilities, music, graphics and disk mags have flooded the Plus 4. A video is available from Germany containing footage of many plus 4 wares!

Okay, time to go. I hope you've found this an interesting article, and, until next time . . .

The address for any reactions, questions etc., is..

R.M.B. 221  
SUNRAYSIA HWY  
STUART MILL  
VIC. 3478

## Diagnostics Part 1

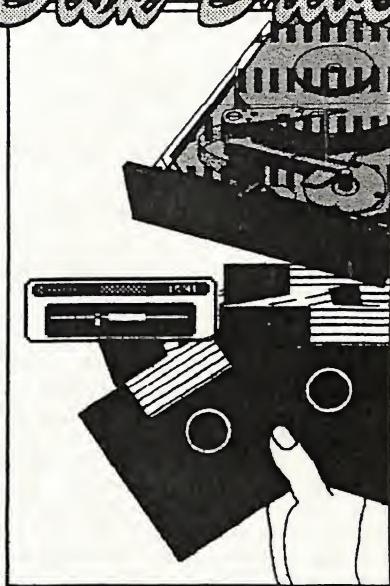
*with  
Neville  
Thorburn*

Welcome back! This month we will make our first foray into basic 1541 diagnostics.

Of essence, this and ensuing articles will (I hope) not be any more technical than is necessary. Many of the readers will, no doubt, not have a grounding in electronics, and will not be interested in taking on repair jobs personally. Whilst I hope this will prove an excellent reference series for the more electronically minded, I also want this to be an understandable and educational tool for those of you who want nothing more than to know what's going on with their drive and perhaps gain a little knowledge about the workings of these devices.

Before we get into the nitty-gritty of this article, I want to issue a plea for help. I have had poor Warren chasing around for me these last few months looking for P.D. programs to aid in the detection of drive mis-alignment and the correction thereof, and in the reading of drive speed. He has come up with several, but all have faults and/or shortcomings. Once I have decided on suitable items, these will be featured on a future Disk-Coverer for the use of all. After all, I feel it pretty useless offering people the knowledge if they haven't suitable tools with which to put that knowledge to practice.

One program which Warren has heard of, and that comes with a pretty big reputation, apparently, is 1541 ALPS (or similarly named). Unfortunately, we have not been



able to acquire a copy, so if anyone out there has it, and it's P.D., we would love to see it! If anyone feels that they can program something along either (or both) of these lines, and would like to have a go, we would greatly appreciate this also (in fact I know Warren would love to include readers input).

Lastly, this is, in my opinion, an important tract. If I make a mistake, don't cover an item in sufficient depth or with sufficient clarity, or leave out what you believe is pertinent information, then please respond accordingly. I for one would welcome articles on specific facets of the 1541/71/81 or input into Letter's Link exposing my imbecility. Well, that said, on with the show!

## SAVE MONEY

Many of you will take one look at this article and think, nah! I'm not interested in that!, but please, read on, it could save you money!

Hopefully, by the time this little series is finished, anyone who has taken the time to follow it will have enough knowledge to at least point a technician in the right direction, and perhaps even to pin-point the problem before passing it on to someone more capable of repair. This time round, I've included a couple of diagnostic aid charts which should prove a little more than useful. However, please remember that they ARE only aids and will not give you a 100% guaranteed correct answer every time. You will, in all cases, need to be able to carry out testing of some sort in order to ascertain the

certainty of any cause of failure, so a few basic tools will be essential if you wish to do more than just narrow down the likely causes. I will most likely devote all or part of a future article to "Tools of the Trade".

### OUR L.E.D. LEADS THE WAY

The 1541, like other drives in the Commodore range, performs an automatic diagnostic routine on power-up. If a fault is detected, it signals us that all is not well via the L.E.D.'s. Below is a quick-reference chart outlining the general area at fault as indicated by the LED flashes. In signalling the problem, the drive will flash the LED the required number of times, pause, then begin flashing once more. This occurs continuously until a drive reset or other interrupt occurs. Note that you should be aware that the flash codes simply point to the GENERAL area in which a failure occurs. Such errors may also be caused through a fault in associated circuitry.

#### 1541 ERROR FLASH CODE INDEX

Number of flashes in succession								Possible failure
2	3	4	5	6	7	8		
							Zero Page	
							DOS ROM's	
							RAM	

If you are going to perform your own repairs, or are just curious as to exactly what is wrong, the first thing that should be done is to check all ROM and RAM locations (6502 and 325302).

### DIAGNOSTIC CHART, PART #1

(Special insert with this magazine)

This is the first part of what is (depending on how I lay it out - i.e. how much room I've got - and what, if anything, I add in the next couple of weeks!) a two to two and a half page chart.

#### DISCLAIMER

Just to give you something to worry about, here's a disclaimer:

I hereby disclaim any responsibility for the accuracy of any information, and for any liability for any damage caused through the implementation of said information. This is intended as simply a guide to help you isolate probable causes of failure, and any action taken as the result of said identification is solely your responsibility.

#### COMING UP!

Next month will see the second part of the diagnostics chart (and perhaps the third, since we won't have the DiskCoverer file listings to contend with). As for the rest, well, you'll have to wait and see, won't ya!



*Warren Naismith*

You know, sometimes I can sit for hours, just trying to come up with an idea for this column. Something new, something just a little different.

Well, this month's effort isn't all that original, but it is something we haven't covered in the past (as far as I can remember!), and that is the audio ability of our machines.

Sound on the C64/128 can be lumped into any number of categories, ranging from the American SID music (in mono or stereo) to the more "professional" (my personal opinion) sounding European offerings. From music players, to music creators. From sound effects creation utilities, to digitised sound. What can be done on "the big boys" can be done on the 64, albeit, in many ways differently and often without the high standard of reproduction achievable on larger memory systems. But don't be fooled, the Commodores are still very capable of quality sound reproduction and we'll look at a few audio-related programs in this month's column.

#### SIDPLAYER

No look at audio-related P.D./Shareware/Freeware software on the C64 would be complete without at least a cursory glance at the SIDPlayer family. I say family because SIDPlayer seems to be a generic term relating to a whole host of inter-related routines from various authors produced over a period of several years. Probably my first introduction to SID music

on the 64 came at the hands of the original SIDPlayer routine.

The whole SIDPlayer premise is based on music originally created by Harry Bratt's "Sidplayer Editor", published in 1995 in Compute!'s book "All About the Commodore 64, Volume Two" written by Craig Chamberlain. This program has since been superseded by others of its type, including the excellent "Enhanced Sidplayer Editor". Also to be found in this volume was the first SIDPlayer.

Whether this borrowed from earlier works, or whether it set the pace, and was the basis of future developments by others is unclear to me, but it is the earliest piece of software of this generic type and form in my collection. Certainly, in the intervening years between its release and today, a number of variations on the theme, and a number of independently produced utilities for SID players have surfaced. Let's have a look at some.

#### KPLAY

This is an enhanced version of the original SIDPlayer published in the Compute! book. It features a piano style keyboard and saw the light of day in late 1985. Its major shortcoming was its inability to play more than a single song in sequence, with the user having to select each piece of music individually as it was to be played.

#### MULTIPLAY

Also known as MPLAY, this

program was designed as an autoplayer for SID files. Upon loading, MPlay lists three columns of up to 17 files for a total of 51 music files maximum. If there are more on the disk, these become inaccessible to the program. You select music pieces by using the cursor keys to move about the screen, pressing F-1 to select each file. The order of selection is remembered, and the music played back in that order.

### SIDPLAYER SINGALONG

Early in 1986 a new innovation hit the SID world, that of "singalong" music. SIDPlayer Singalong bought new life and extra enjoyment to SID's with the implementation of .WDS files. .WDS files contain the words, or lyrics of a given song, and these are scrolled on-screen as the music is played giving the user the chance to sing along to his favourite tunes. Unfortunately, this first implementation of an excellent idea was flawed as the player would not access a music file unless a words file was present, thus rendering the vast majority of SID music files inaccessible to it.

### ENHANCED SIDPLAYER

1987 was to prove a busy year for SID fanatics with the release of several new players and utilities, but the highlight was this program. Extensively revised, this program could be set up to play any number of music files from a disk and could quite happily access "singalong" files, displaying the words in time with the music. Full screen colour bit-maps were also supported for the first time. Unfortunately, this was not a P.D. release, but a commercial one, and mention of it is included here as a matter of interest. But the P.D. SID world was not sitting on its laurels, read on!

### SIDPIC

1987 saw Kermit Woodall produce his SIDPIC series, with version 2.5 playing only mono SID's and displaying Koala graphics, words in singalong format, or just playing the music, depending on choice.

With version 3.0, Kermit took things that little bit further,

replacing the music Grand Staff which had previously graced the screen when music was playing with what was rapidly becoming the norm, a keyboard. He also implemented the display of the letter value of each note on each voice as it played, incorporated the ability to display black and white hi-res pictures, and gave his program the ability to play FROM a certain song onwards rather than what had, in the past been an mandatory choice between a single song or the whole kit-and-caboodle.

### STEREOPLAYER

With the advent of the Enhanced SID Player and its accompanying Editor program, it suddenly became very easy to create 6 voice SID's for use with systems which had the second SID chip installed (or a plug in cartridge carrying a second SID). The StereoPlayer series was created in response to this and had the ability to play both normal and stereo SID's as encountered. These generally supported the advancements, like graphic displays, etc., made over the previous few years.

### STEREOPLAYER V10.0 AND V11.0

The next step in the development of the StereoPlayer system, these supported compressed koala/doodle format graphics, offered the promise of MIDI support, gave the user an opportunity to expand three voice files out to six voice stereo, let you slow your music down to about one third normal speed (why?), offered full screen animated text ability from within a WDS file, and had several bug fixes implemented, including a more reliable "fast forward" option. One thing I have found though is that, for some reason, all my copies of

these two versions are corrupt! Odd!

### MIDIPLAYER

Now we get into the heavy stuff! No longer content with just listening to music or singing along to our favourite ditty, we are presented with a means of programming a synthesiser with our music. midiplayer uses Enhanced SID Player files with any MIDI-capable synthesiser. It not only sends MIDI information to play, but also supports other MIDI features such as program and controller changes, different channel modes, and different keyboard velocities. It even gives you real-time control to help you synchronise a drum machine with the synthesiser.

There are two versions. the first allows the loading of patch files to support non-handshaking synthesisers, and the second version allows the loading of patches to support the Casio CZ series of synthesisers.

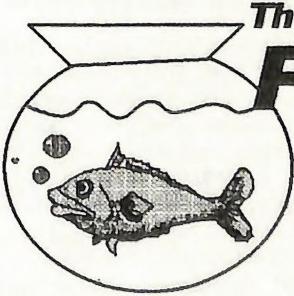
Passport, Sequential, and Datel MIDI interfaces are all handled, as are Sonus and Dr.T.

### DIGIPLAYER 2.0

Nothing whatsoever to do with SID players or MIDI compatibility, but I thought I'd just chuck it in as it is an interesting program.

Despite its name, this is not primarily a player but a conversion utility with the ability to play the converted files. It will take digitised files created with an Amiga, Atari ST, Mac, or Apple II/GS and translate them to C64 RAW format. I've included a copy on the latest Disk-Coverer.





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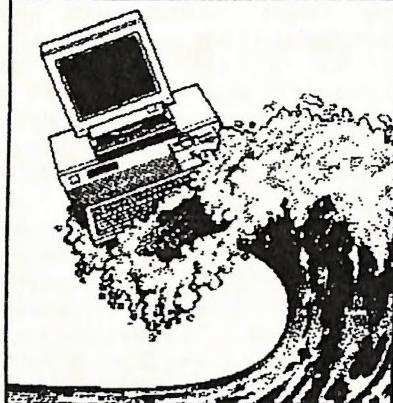
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February 1995

# Surfing the Nets



## ECHOMAIL TUTORIAL

This is a brief tutorial about the FidoNet phenomenon called EchoMail. It explains what an EchoMail Conference is, and how you can effectively use EchoMail to send messages to others without becoming unpopular!

An EchoMail Conference is a discussion on a particular topic which takes place on a number of FidoNet bulletin boards almost simultaneously. A message placed in an EchoMail Conference on one bulletin board is "echoed" to all the other boards in the network which are participating in that conference. There are many conferences available, including international ones, which cover a wide variety of subjects. Not all conferences will necessarily be available on all FidoNet bulletin boards. For a list of subjects, ask your friendly Sysop.

EchoMail allows you to talk to people on other FidoNet bulletin boards across the country and the world without having to know who, or where they are. You can tell an EchoMail Conference Area from the Area Name. It will say something about the echo, eg. DESQVIEW, AUST\_MODEMS etc. All you have to do is enter a message in one of these areas, and it is automatically sent out to any and all FidoNet bulletin boards participating in that particular EchoMail Conference.

## ORIGIN LINES

At the end of each message in an

*When you're using a modem to link across Australia or the world via BBS's hooked to the Internet, FidoNet etc. it's known in some circles as Surfing in Cyberspace, or simply Surfing the Nets.*

## ECHOMAIL EXPLAINED

Originally by Jon Sabol (FidoNet 1:124/4210)

Updated & Edited by Trev Roydhouse (FidoNet 3:711/401)

First Edition : 13 August 1988

Second Edition: 29 December 1988

Third Edition : 09 August 1991

Fourth Edition: 26 January 1995

EchoMail Area there is a line called an Origin line which shows the name and FidoNet address of the board on which the message was entered. At the end of the origin line there are three numbers in parenthesis. This is the FidoNet address of the originating bulletin board, eg EchoMail messages entered on Sentry have an origin line ending with "(3:711/401)". The "3" is the Zone number for Australia/NZ/PNG, the "711" is the network number and the "401" is the node number. You can find a listing of all the zone/net/node numbers in the entire world in a compressed file on many FidoNet bulletin boards called "NODELIST.???".

If you wish to send a private FidoNet NETmail message (not a public EchoMail message) to a person who has entered a message in an EchoMail Conference, you can discover the person's FidoNet address by checking the origin line on the particular message. If you do not know how to send a FidoNet netmail message, ask your friendly Sysop.

## PRIVATE MESSAGES

All the messages in an EchoMail Conference area are sent out to all the other participating bulletin boards. Many FidoNet bulletin boards only allow public (not private) messages in EchoMail Conference areas. Some FidoNet bulletin boards automatically send private messages entered in EchoMail conferences by netmail. Check with your friendly Sysop!

If you want to send a private message to someone, you should generally not use an EchoMail area. You should, instead, use the FidoNet netmail area (also known as the Matrix area on Opus bulletin boards).

## PERSON-TO-PERSON MESSAGES

Generally, person-to-person messages should not be entered in an EchoMail Conference. If you have a message for Bill Bloggs, and no one else is likely to be interested in it, then use FidoNet netmail and not EchoMail otherwise the sysop of every bulletin board participating in that EchoMail Conference will pay to receive it. A message between two users in Sydney, received on a BBS in Perth, is not likely to win you any friends. It can be worse! If the particular EchoMail Conference is an International one, your message could end up on numerous FidoNet bulletin boards across the world.

## THANK-YOU MESSAGES

If you do receive a flood of replies to a question which you entered in an EchoMail Conference, it is only natural to want to thank each individual who replied. DO NOT do it! Those 15 messages saying "Thanks for your reply <fill in the name>" will be echoed everywhere and are only of interest to the addressees. You have two choices: (1) send a private FidoNet netmail message, or (2) send a single "global" thank-you message in the EchoMail Conference (eg "Thanks to all those who helped with my modem problem. It is now fixed").

## OFF-TOPIC MESSAGES

Every EchoMail conference has a subject; do not stray too far off it. Many EchoMail Conferences have a moderator who will step in and shout if the topic strays too much. Unless you have been involved in a particular conference and have a good grasp of its scope, be cautious about entering messages on new topics. Some moderators post messages containing rules for the use of the EchoMail Conference at regular intervals. Keep an eye out for such messages.

## REPLIES SHOULD STAND ALONE

When you reply to a message in an

EchoMail conference, mention enough of the previous message so that readers can tell what you are replying to. It is maddening to see someone discussing the merits of a previous message when you cannot figure out what the previous message is about.

### QUOTING MATERIAL IN REPLIES

Many bulletin boards allow you to "quote" parts from the message to which you are replying. This is a very handy feature, but it should not be abused. You should only quote sufficient from the original message so that readers of the conference know what you are talking about. It is maddening to see someone quote an entire message in reply, only to add a short comment like "I agree".

On those rare occasions where you really must quote the whole of the previous message for some specific reason, do not also quote the "tear line" (the line before the origin line which indicates what software was used to process the original message), the origin line, or the EchoMail "SEEN-BY" lines which are not normally visible to readers.

### DELAYED REPLIES

Remember the delay inherent in an EchoMail Conference. If you post a question, do not expect a response tomorrow. If you reply to a question, realise that many others may be replying at the same time, and that a flood of messages in reply may pour in over the next several days. This will be particularly so in the case of large National or International EchoMail Conferences where replies may take up to a week or more.

### SIGNOFF SIGNATURES, JOKES, QUOTATIONS

When you enter or reply to messages in EchoMail Conferences, do not sign your messages with long, multiple line or graphic signatures. Your full name is already in the message header and your FidoNet address is already in your origin line. Generally, the inclusion of other network addresses is not useful because the majority of FidoNet users do not have access to other networks.

Some offline message editor software can be configured to

include a joke or some other quotation of the moment in messages which you enter. Please do not include these jokes or quotations in EchoMail messages.

The addition of the above duplicated, extra or unnecessary information only serves to increase the cost of moving your messages around the country and/or internationally.

### COMMERCIAL ADVERTISEMENTS

Commercial advertisements are not allowed in most EchoMail Conferences. Why should the individual sysops who bear the cost of moving the messages around the country, and the world in the case of international conferences, pay for your advertising? If you do enter a commercial advertisement, you will probably be warned not to do so again and your message will be deleted. If you persist in entering commercial advertisements in an EchoMail area you can expect to have your access to the relevant area or bulletin board cut by the Sysop. If you are a Sysop, your link to that conference may be cut.

### COST OF ECHOMAIL

EchoMail is NOT free. EchoMail messages are sent via local, STD (in Australia) and IDD (to the rest of the world) telephone calls. The Sysops involved generally bear the cost of these calls themselves. Users are NOT charged for sending or receiving EchoMail messages.

### CONCLUSION

Now, all you have to do to use EchoMail is enter, read or reply to the messages in the EchoMail Conference message areas. EchoMail takes care of the rest. Please participate in EchoMail with us. Sysops provide this as a free service, and really enjoy seeing it put to use. Enjoy!

Don't forget there are BBS's in all states that carry echomail likely to be of interest to you. In Commodore Network circles there are a number of Echos accessible at a number of sites.

64 Talk	Australia wide
CBM	International
CBM-128	International
CBM-Geos	International
Comp.Sys.CBM	Internet
Network Chatter	Regional

*Network Chatter is a Commodore Network exclusive chat echo and is available at the following BBS's only.*

#### Melbourne:

#### GeoZ BBS

(03) 803-6498

speeds 300 -14400 bps

#### Brisbane:

#### Brisbane Pinnacle

(07) 341-9560

speeds 300-14400 bps

#### Adelaide:

#### Fishbowl BBS

(08) 277-1361

speeds 300-14400 bps

*Other Bulletin Boards are invited to contact GeoZ BBS Sysop Artie Stevens to arrange linking Network Chatter echo to your system.*

Netmail 3:633/272

E-Mail Artie@f272.n633.z3.fidonet.org



# Commodore Network Merchandising

## 9 Wadeson St, Cobram, Vic 3644

### DISK UTILITIES

#### THE 1581 MASTERS COLLECTION

A collection of 1581 utilities and files, supplied on a 1581 disk. Ideal for owners of this drive or the new CMD FD series drives looking for utilities to help them get the most out of their equipment.

\$5 to subscribers \$7.50 non-subscribers

#### THE 1571 MASTERS COLLECTION

As above, but for use with the 1571 drives. Includes programs to help you utilise your drive's ability to handle MS-DOS disks.

\$5 to subscribers \$7.50 non-subscribers

#### GEOS

#### SAMMANTHA'S GRAPHICS GOES GEOS

Yes, the popular Sammantha's Graphics in GEOS format, a must for those wishing to add a touch of Australiana to their GEOS documents.

\$5

#### GEOS BORDERS

by Norman B Gough

A selection of borders for use with GEOS. Two double sided disks for an unbelievable price of just \$7.50 the set.

#### CN GEOPAK #1

A selection of GEOS items fresh from Q-Link in the States. This double sided disk contains FULL documentation for most files. Disk contents include: Poster Print, Change BSW, various Fonts, Printer Drivers, and graphics, Unpublish etc.. A must for any GEOS collection.

\$5

#### CN GEOPAK #2

The long awaited second disk in our GeoPak selection. Full documentation is included. Two disk sides containing, amongst others: Mah Jong, DB Getfile, Fontloader, etc..

\$5

#### CN GEOPAK 128

A double sided collection of GEOS PD exclusively for the 128

\$5

#### ENTERTAINMENT ADVENTURE DISK #1

The first of our adventure collections.

\$5

#### ADVENTURE DISK #2

The follow up to the successful Adventure Disk #1 for the many adventurers out there

\$5

#### UTILITIES

#### INTERCHANGE 64 and INTERCHANGE 128

Two disks devoted to specialised programs to help the translation of documents or graphics from other computer systems to the C64 and the C128 respectively. Sold separately at \$5 per disk for subscribers, \$7.50 non-subscribers.

#### DEMO GRAPHICS TOOL DISK

A collection of tools for the budding (and experienced) demo artist.

\$5

#### DESOTO UTILITIES

An excellent multi-drive operating system for the C64. Handles 1541, 1571, 1581, CMD HD, and RAMLINK in any combination - EXCELLENT!

\$5

### PRINTSHOP GRAPHICS GRAFIX GALORE

Tom Stoehre

Subscribers to LoadStar will be familiar with Tom's Work. This collection is priced at \$10.95 and comes recommended.

#### SAMMANTHA'S GRAPHICS

By Sammantha Hayhoe

Looking to add a touch of Australiana to your printed output? Here is a collection of true blue graphics for PrintShop users.

\$5

#### NEW! - SAMMANTHA'S GRAPHICS II

By Sammantha Hayhoe

52 new true blue Oz graphics and 67 brand new borders!

#### VIDEO SHOP

A multi featured graphics manipulation program capable of working with Print Shop, PrintMaster, Doodle, Koala and standard bit-map graphics. Comes complete with a disk of graphics and a disk of fonts and a detailed manual.

\$12.50

#### ACCESSORIES

#### MOUSE MATS - \$4.95 each

I now have a range of no-name diskettes in both 5 $\frac{1}{4}$ " and 3 $\frac{1}{2}$ " formats

5 $\frac{1}{4}$ " DS/DD - \$5.50 per box(10) \$50 per 10 boxes(100)

5 $\frac{1}{4}$ " DS/HD - \$10.50 per box(10) \$95 per 10 boxes(100)

3 $\frac{1}{2}$ " DS/DD - \$10.30 per box(10) \$88 per 10 boxes(100)

3 $\frac{1}{2}$ " DS/HD - \$16.50 per box(10) \$150 per 10 boxes(100)

Disk Labels with write protect tabs - 100 for \$2

#### PUBLICATIONS

Commodore Network is now carrying a range of publications for the Commodore 8-bit enthusiast. Prices quoted below are for non-subscribers. Subscription holders to CN are entitled to deduct 10% from prices quoted.

*Cee-64 Alive!* - American disk based magazine for the C64/128. Latest edition consists of six disk sides. Issued six times a year and available for just \$35.00 Sample Disk - JUST \$4.00

*Commodore World* - CMD's latest venture into the realms of Commodore 8-bit support. Paper based and averaging around 50 pages an issue, this publication will appear 8 times a year - \$76.00

Single Issues \$10.50

Bargain Pack - Subscriptions to Commodore Network, *Cee-64 Alive!* and *Commodore World*, all in one convenient once-a-year payment - ONLY \$132 - WHAT A BARGAIN!

#### Back Issues

All previous editions of Commodore Network are available at a cost of \$3.50 each, post/packing inclusive within Australia. Foreign Subscribers should remit \$4.50 Australian per copy. Past Disk-Covers are also available at \$2.50 within Australia and \$3.50 Australian each Overseas.

All software orders within Australia should include \$2 to cover postage costs. New Zealand orders add \$3 Aus. to cover postage, and for orders from elsewhere, a postage fee of \$5 Aus. is necessary.

Diskette Orders should include postage of \$2 and 50cents per disk box within Australia, New Zealand Diskette Orders should include \$3 plus 50 cents a disk box per order. Sorry we cannot accept orders for diskettes from elsewhere.